

# Medical Times

A Monthly Journal of Medicine, Surgery and the Collateral Sciences

Published by THE MEDICAL TIMES COMPANY at 95 Nassau Street

55 Years of Faithful Service to the Medical Profession

Vol. LIV, No. 5

New York, May, 1926

Twenty-Five Cents a Copy  
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Vol. LIV, No. 5

NEW YORK, MAY, 1926

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## Fees Feasible and Fees Infeasible

VICTOR COX PEDERSEN, A.M., M.D., F.A.C.S.

New York

It was in pessimism and discouragement that a very famous author said: "*Ethics—ethics, that which is meant for the young man.*" The developments in the commercial world, concerning health and their positive results upon the earning power of the medical profession, make the question of fees with relation to the household and their family physician and other physicians one of great complexity. Biggs uttered the slogan: "Public Health is purchasable. Within certain limitations a community can determine its own death rate." Recently commercial enterprises have awakened to this proposition with the result that medical and nursing establishments materially protect the health of their employees. A few examples prove that which is now more and more familiar to the profession: Health insurance, workmen's compensation, dispensaries and private hospitals developed and maintained by corporations such as department stores and labor organizations, etc. Department stores today have a small ward and private rooms with nurses on duty and a physician on call for employees and customers. The growing number of salaried medical and nursing staffs means a distribution of professional service on a wholesale commercial relation. This medical service is essentially "a bulk delivery of goods" for which a "lump payment" is made. Salaries when computed fully verify these statements. The real situation is that whereas the professional responsibility is not legally reduced the actual return to the physician is amazingly small when each responsibility is considered.

In illustration the writer remembers a concrete experience during his early private practice.

Case I.—As a physician of the Industrial Division of an insurance company it was his duty to inspect usually children very rarely adolescents as to fifty to one-hundred dollar policies, and occasionally to examine for five hundred to one thousand dollar policies. The inspections were paid for at literally a few cents, and examinations at one dollar. The income was adequate to pay office rent. A classmate ridiculed the arrangement as beneath professional dignity when compared with his own salary of \$1200 a year for examination for policies in a large company from \$500 to \$50,000. When he computed his

fee-rate for each examination he found it was 33 cents each without reference to the value of the policy, and immediately resigned his position. This sum was proportionately a smaller fee for an examination than the fees of the author for an inspection.

If the same computation were made as to medical salaries, it would be found with few exceptions that for the full legal responsibility accepted the rate of fee is below a livelihood basis.

The members of the profession directly affected are young practitioners and old-line family physicians. It seems possible that the number of both of these groups will rapidly decrease in the near future unless a way of correcting the difficulty is found.

Another consequence of "wholesale medical practice" is a real reduction in the number of patients for office and home attention. These two difficulties make practice almost hazardous from a livelihood standpoint in the present. The uncertainty of the future is so great that many well-established practitioners with whom the author has discussed these matters say that they would themselves hardly venture to enter medicine if they were young men.

A phrase often heard is "commercialism in medicine." Usually no two physicians have quite the same definition for this saying and it is well to contrast the definitions as given in good dictionaries. The primary meaning of "commerce" is given as "business intercourse, especially the exchange or buying and selling of commodities," . . . the secondary meaning is "social intercourse; dealings between persons or groups of persons in society . . ." Physicians seem to regard as sordid and improper many of the principles of commerce under the first definition, although such principles are born of ages and ages of human experience. Such viewpoints lose sight not only of the secondary meaning of the word, but also of the necessity that the two relations cross each other.

<sup>1</sup> Webster's New International Dictionary, 1925, p. 448.



This paper considers the need of the medical profession to adopt openly some of the principles of commerce which are already adequately established under the family budget system.

There is a tendency of individuals and families to pay operators, specialists and consultants more or less beyond their regular means or budget. It is based on a kind of "sure-cure superstition." Out of this error necessarily grows underpayment of the family physician usually below his reasonable livelihood. This might be called a subconscious "save-something policy." If medical opinions were finalities then liberal payment under the sure-cure superstition would be justified, but inasmuch as medical opinions are not finalities in a very large number of cases the financial burden of this superstition should not be indirectly placed on the livelihood of the family physician. This is one of the "man-to-man commercial relations" whose adoption will dignify the profession.

There seem to be three factors in this double situation. The first is the salaried wholesaler who while doing excellent work nevertheless accepts remuneration below the legal responsibility and the medical value of his services. The second is the person or family who trim the interests of family physicians in any manner provided their own expenses are reduced. The third is the operator, specialist or consultant who charges all the traffic will bear, caring little or nothing as to whether or not the family can pay the general practitioner or as to whether or not he will ever see the household again. This might be called the "get-it-all policy." The result is a reduction in the livelihood of the family physician.

An example of "get-it-all" is the following personal experience:

Case II.—In his second year of practice, the author encountered a pelvis, just major externally and internally, but having an exostosis palpable only during the version, performed by a professor of obstetrics in New York City in consultation. The family were tenement house laborers occupying five rooms, had paid the author twenty-five dollars for the entire case and had difficulty in raising \$15 for the consultation. The baby died through the severity of the case. The author wrote to the professor thanking him and enclosing his own \$25 fee because \$40 was not adequate. This was ethics applied to and practiced by the young man. The professor kept all the money, whereas the author lost his professional time in the preliminary treatment, in the effort at normal confinement and in the after-treatment. He likewise lost that family and two others related to it. The after-treatment by preventing infection and complications protected the reputation of the professor. If the author had been his office associate he would have been paid. The income of the professor was at least twenty-five times that of the author whose problem was office rent and living. Yet if the professor had returned the \$25 or a part thereof, he would have been accused of "splitting fees": violating "ethics."

But what ethics did he follow by keeping the entire fee? By what reasoning was only his service worthy of pay? Did he get lost in the shadows of his own "greatness" and miss the path of fair man-to-man "commerce"—human relations? Was the brilliancy of the operation so dazzling that it blinded him to the meaning of forty dollars from a poor family to cover all the expenses—the "budget" of that childbirth? How would a business man treating another business man in that way be regarded—as honorable and ethical?

Case III.—In contrast twice in his professional career the author has removed foreign bodies from the bladder introduced by professional friends. All fee was refused because any fee would invite a suit. What a difference there is in the viewpoint between one man and the next! Neither of these friends has ever sent to the author a single office, consultation or operative case in the lapse of many years.

Surely "Gratitude is appreciation for favors about to be received."

In sociology as in physics there is one immutable law, namely, that to every action there is an equal and a contrary reaction. What is the equal and contrary reaction to these three facts: Cure-all superstition, save-something plan, and get-it-all policy? Simply and solely the fee-splitting evil.

No clearminded physician doubts that fee-splitting is here to stay, not because of professional degeneracy, but because of the new economic conditions surrounding livelihood for every person in the community who has not inherited an adequate income or who has not risen to extraordinary success. Our medical organizations by such expedients as constitutions, by-laws, codes and pledges are not able to alter this custom. One might say that the young physician and the family practitioner are in a situation of desperation. Truth and irony rarely coincide, but the writer has been given the following translation of F.A.C.S.: "Fees are carefully split." Perhaps ten years ago in this city this question was more or less openly before one of the medical societies, and a leading surgeon is said to have uttered this statement on the floor: "Split fees? of course I do, and what are you going to do about it?" In similar irony rather than probable truth is the statement that the only persons not splitting fees are the professors and prominent members of the profession who can afford to ignore all man-to-man commerce with their fellows. It is in fact they who make up the "get-it-all" group, and who perhaps above all others must exercise studious precaution not to make this very error.

A preceding paragraph has spoken of the economic conditions surrounding every person in the community. Lest any reader doubt that this is the fact, let him consider the budget method of organizing and managing our national government, the budget plan of maintaining great business enterprises and fortunately in a growing number of families who never previously have kept books at all, the budget arrangement of income and costs. Perhaps among the last group to adopt these wise procedures is the physician himself, so that too few members know that it costs from one to three dollars per patient in overhead office expenses. The smaller costs belong to the general practitioner who covers the entire range of diseases for every member of the family and the larger costs belong to the specialist who restricts himself to one field and to added expenditure in costly equipment, long examinations and time-taking treatment.

For example, in electrotherapy one friend of the writer who has a large establishment has had an efficiency engineer estimate that his overhead per patient is hardly less than \$5 for a thirty-minute treatment. Physicians have to remember that as in business so in practice overhead consists of many factors whose total only careful bookkeeping reveals. Only as examples one may mention a few: Rent or interest on investment in property, fuel, illumination, taxes of all kinds, insurance of all kinds, ordinary and special equipment and supplies, ordinary and expert service, telephone, stationery and postage, professional travel of all types, etc. Physicians often do business below cost in overhead. The foregoing common examples of cost mount up more rapidly than is realized until careful books are kept. Physicians cannot equal but should endeavor to follow the example of the business-man who never sells below cost unless bankrupt. An official of a large corporation once told the writer that after the most careful computation of costs, at least 6 per cent and usually 10 per cent are added as the final cost below which no sale is ever made, even during cut-throat competition, because the company must make at least 6 per cent to survive. This means that the cost of a machine finished and on the



floor of the shop at \$100 is booked as having cost \$110. Thereafter, according to the trade, it is catalogued perhaps at \$200 from which small, moderate, or large discounts are made according to size of an order but never below the said cost of \$110.

There is nothing sordid in this procedure because human enterprise has the right to survive ordinary competition. As a former business man who was the purchasing agent in an electrical manufactory the author cannot escape the opinion that the medical profession is entitled to have similar customs directly or indirectly. Inasmuch as families are now living more and more on the budget system it is at least open to frank and free discussion as to whether or not family physicians, operators, specialists and consultants must not arrange their affairs among themselves on the one hand and the families on the other, also on the budget system, as herein after discussed.

The author's attitude has heretofore been against fee-splitting and not in favor of it in any of its manifestations. This has been consistent with training under older men who lived, practiced and died in the days when the budget system of living and secondary to it the budget system of practicing among the public never came up. The high costs of modern living have now determined otherwise, and seemingly beyond all control by the profession. In Case IV of this article explanation succeeded, but it usually fails although aimed to instruct the patient that the family physician in his cooperative relations with the consultant or specialist is rendering a service of importance which must be paid for. When modern fads and cults had not shorn the profession of so much of its dignity, this service was an axiom in the minds of the patient and his family. Moreover the fixed details of a budget determination of medical costs were practically unknown. The converse obtains today. The profession as a whole and every member of it is under trial or mockery through the influence of cults. Are we not in the position of the old-fashioned Presbyterian who was damned if he did and damned if he didn't? It takes a philosophical mind to realize that damnation will follow one way or the other and hence may ultimately be ignored. The old and honored custom of being sure that the family understood the value of the services of the family physician during an operation and convalescence can hardly be successfully continued. In addition to a definite and inherent distrust of medical practitioners the necessity of a fixed cost (and no more) of a medical procedure is becoming universal and well nigh essential. Family physicians state that even when such instruction is received individuals and families decline to be bound by it.

Another plan which the author has endeavored to follow is never to name a fee for consultation and operation which is not acceptable to the family physician. This detail the patients are apt to accept freely, but it is not without objections as shown by illustrative Case V in which the family physician endeavored to follow the "keep-it-all" policy as later discussed, thus putting himself exactly on the level of the "get-it-all" operators, specialists and consultants. The relief of this situation is for the family physician to suggest the proper fee and then for the consultant, operator or specialist to receive it after due explanation that the arrangement has been made through the knowledge of the family doctor concerning financial capabilities.

The opposition of our medical organizations to fee-splitting is logical and in correlation with a general aversion to anything that is not strictly open in professional dealings. There are, however, two sides to every question of human relation, and in this case we have the

sordid or meanly avaricious standpoint and the economic standpoint which aims to produce a proper balance in all the financial relations of the patient. This whole problem when viewed from this standpoint is suitable for open discussion and worthy of very frank statement.

The community has three classes. One sees at once the difference in viewpoint each group represents. The groups are the intelligent upper class, the almost equally intelligent middle class, and the laboring class, relatively unintelligent in such matters.

The intellectuals readily understand and pay for the services of the family physician in the foretreatment and aftertreatment of operations, in consultations and similar complex relations, because in them all the knowledge of the family physician is necessary. A small group of the middle class take the same viewpoint, but the majority do not, and among the laboring class practically none do so. In both these latter instances the situation is one of restricted means and the struggle for existence.

A sidelight on the budget system which shines too little is the fact that if a family sets aside a budget allowance for sickness, say \$10 a month, and for a relatively long time has no sickness, the said allowance should be put into a bank as a budget reserve for sickness. Quite to the contrary, however, no such reserve is made, but the money is spent for other purposes.

Case IV.—The author knows of a "poor" family whose total income from the father and three children is not far from \$125 a week, and yet when they are sick, they have no budget reserve but usually go to a dispensary. The money which should be in a sick benefit reserve is spent regularly for clothing far beyond their means or station to possess. When a Social Service nurse calls on such a family a discussion might easily convince her that the family cannot afford to pay for medical care. All the facts cannot be brought out to show that the amount paid for clothing and the like is the real source of apparent impoverishment.

Usually the middle and working classes in one degree or another are the victims of their own "sure-cure" superstition or the "get-it-all" policy of operators, specialists or consultants and whose family physicians thereafter become the subjects of the "save-something" motive. These classes make up the majority of the sick and their problems are the crux of the whole matter. If they budget their costs at all, their allowance for sickness must be small, and if they establish no sinking fund for sickness out of this allowance when they have no sickness, they never develop an adequate reserve against sickness. Hence, they become free patients in dispensaries behind the back of their doctor or pay-patients in a pay-clinic in the same manner, because of the lack of the reserve or because they have paid far beyond their means for some special service.

These circumstances are the origin of the saying that there is good and adequate care for the very rich and the very poor, but altogether too little good medical service exists for the middle class of restricted means.

Such a statement applies to the "white collar" class, namely, persons usually of moderate salary but more commonly persons of adequate salary who do not adjust expenditures to the fact that sickness is an economic loss for which they must prepare a reserve during health. This may seem to be a striking and unreasonable statement but the analogy is complete between the white collar class and those business men who, while insuring their factories, also accumulate a fire reserve. When this sum is large enough to cover ordinary losses they cease paying insurance. What such firms gain is that the reserve placed at interest earns an annual income comparable with and frequently equal to the former fire insurance premium. Just as it takes a cautious individual

to preserve his sick benefit surplus, so it takes a business man or company of caution and foresight to manage their insurance item in this way. The analogy between sickness in a family and fire in a business from the standpoint of unexpected incident and essential economic loss is complete. The white collar class will be discussed again in this contribution.

The avoidance of fees not acceptable to the family physician with his intimate knowledge of the finances of his patients is usually easy and always works well if the physician is as honorable as the operator, specialist or consultant should be. Undoubtedly it works best if the matter is adjusted directly with the patient and in the presence of the family physician. This has always been the endeavor of the author. It works admirably with the intelligent who, when informed that they should also pay their family physician always do so. On the other hand perhaps the majority of the middle class and all the working class, at least at the present time, are not educated to the proper viewpoint of valuing services rendered. Someone has said that the most common thing about commonsense is that it is not common. Is it not time, however, for real commonsense to be made common in the practice of medicine to the effect that in such circumstances the budget system should apply on both sides, namely, that the family is able to set aside a stipulated sum for the entire medical problem and no more, and that out of this sum all the medical practitioners involved in the case must receive their due and fair income?

Earlier in this contribution reference was made to the "get-it-all" group among operators, specialists and consultants. It must not be forgotten that there is a "keep-it-all" group among family physicians, again perhaps on the principle that to every action there is an equal and contrary reaction. Case V as described illustrates the exact status of mind in such persons.

Case V.—This incident illustrates the ease with which the rights of the family physician may be protected. Diagnosis: Cancer of the Bladder. Cystoscopy, preoperative x-ray treatment, operation, aftertreatment, postoperative x-ray treatment were all arranged among the family physician, patient and the author on two bases: First, that the consultation service of the family physician during preliminary examinations, at operation, and during immediate and remote aftertreatment should be paid separately from the fees of the author. Second, that the operation fee must be determined with view to the ultimate death of the patient during the dragged-out period of secondary deposit or general carcinosis. Treatment pending this ultimate termination must rest with the physician. If a full operative fee had been demanded the patient would have no reserve for paying him a just livelihood. Although a salaried individual the patient conceded to and will conform with this arrangement.

Thus much for the results of the budget system as carried out with a patient of the old school. Let us assume, however, that the individual could not and would not compensate his physician. Is it just to assume that the latter would stand on the sidelines and cheer while the specialist played the game alone? The author's own opinion is that an incident of this kind fully illustrates the fact that the budget system must apply, consistently and completely, to all professional services when the situation does not work out as fairly as in the foregoing arrangement with this patient.

Returning again to the problem of the young practitioners, it must not be forgotten that at least in this city they are forming groups, clubs and combinations with special reference to aiding each other, out of the ken and reach of senior and more experienced men for consultations, operations, and the like. Therefore, by no means is it improper as a matter of commonsense to face the issue exactly as it is without reference to what one might prefer it to be. Such alliances among young

physicians emphasize due regard for the difficulties of the family physician and for the budget system directly or indirectly existing in the families whom they reach. On the other aspect, however, a thoughtful practitioner has said to the author that the real outcome of this plan is that inferior and inexperienced men are really doing the work belonging to superior and older men, simply because the latter do not recognize the two-fold meaning of the budget system.

Case VI.—This report indicates the budget relation with a physician which as the later notes show was by no means honestly reciprocated. Thus he declassified himself into the group of "keep-it-all." Diagnosis: tight stricture of the urethra, posterior chronic urethritis, and cystitis. Operation: Combined external and internal urethrotomy with a guide. The patient was an expert bookkeeper and therefore on budget living. The preliminary diagnosis fee was paid to the author separately from other fees—all at greatly reduced rates according to the request of the family physician. The operation was arranged for on much the same basis at a fee approximately one-fourth of what it should have been for a person of means. The family physician (a graduate of a first-class hospital) did actually assist, thus giving the patient real service. While returning from the hospital he demanded 50 per cent of the fee—a demand which he defended solely on the basis of the graft principle. He was told that one-third of the small fee would be set aside for the aftertreatment of at least two or possibly three weeks' duration. This, therefore, left two-thirds of the total sum as the operation fee strictly speaking. Out of this sum he was paid one-third, as that is the fee the author had been taught to regard as proper for a consulting assistant. His own services in the aftertreatment in the hospital and at home were charged for extra and on his own account. When he demanded the 50 per cent arrangement he was asked whether or not he would accept or could accept 50 per cent of the legal responsibility in case of a suit. Inasmuch as he could not accept any such responsibility it was impossible to see why he should be entitled to more than the regular consulting assistant's fee. He then replied that it would be no affair of the author if he paid him \$100 after having received \$1000 for the operation from the patient. He was immediately told never to bring another case to the author. The final result is interesting.

About three years later the patient came to the author's office requesting a general examination for departure to India. In the name of the physician this examination was at first refused, but then done on the information that it was more than two years since the patient had severed relations with him. The patient then asked what fee had been paid the physician for his services at the operation. The author at once saw that something strange had occurred and told the whole story. After uncomplimentary remarks about the physician the patient drew a check for the said consulting assistant's fee saying that he insisted upon the operation fee remaining intact for the author. It was perfectly obvious that some form of dishonor if not dishonesty had been attempted by the physician.

As a matter of common justice no other arrangement was proper than the arrangement whereby the physician received a just portion of the operation fee on the budget principle that the patient had reached his limit and that therefore in the settlement the services of the physician must be deducted from the fee. If this is not common professional honor then it deserves no recognition as a distinct financial procedure in the man-to-man commerce of life.

Case VII.—The following notes illustrate commonsense as applied to consultation relation on the budget basis. Diagnosis: Myocarditis with great enlargement of the heart, advanced aortic aneurism and moderate arterio-sclerosis—due to tertiary syphilis. This patient was taken to a heart specialist in confirmation of the diagnosis and in determination of the best treatment of the heart independently of the syphilis. The man had been in the care of the author twenty years. On his own responsibility the man was always irregular. The information given to the consultant was so important that the consultation could not have been held except with the service of the author, thus exemplifying his fixed opinion that in the vast majority of consultations such service by the family physician is equal to the examination, opinion-service and recommendations of the consultant. In this instance the consultant was paid full fees, and because of the foregoing circumstances, the author demanded, explained and was paid the same fee precisely because the patient, who is a lawyer, saw that in a parallel relation within



his own profession no other system of charges would have been practiced. At a later conference the same consultant reduced his fee by 20 per cent, and the author his own fee by 40 per cent, which was similarly demanded, explained and paid, so that for this conference the patient paid about two-thirds of his previous consultation costs.

This plan was simple justice because the case is a long one. The various costs will be large and tend to repeat themselves. Although the fees paid were large, the future of the case necessarily introduced the budget principle and further indicated the justice and the wisdom of the proceedings as followed. If the man had not been able to meet full fees the application of such principles would have been an obligation, resting on the consultant to see that the author's time was not unpaid for and resting on the author to see that his own fees were abrogated so that the patient would not be discouraged from continuing proper treatment. The author cannot but see that such decisions are those of honesty. Even though they may not be strictly within the recognition of the code of ethics, it is rather the ethics that are at fault in that they have not kept pace with the times.

These three brief case reports and the following illustrate how easy it is to arrange for fees feasible and equally how easy it is to detail fees infeasible.

We now come to another problem of costs and charges. Any physician may step into any drug store and upon identification receive quasi-wholesale prices for drugs, chemicals and supplies. This fact is time-honored, centuries old, and never objected to. The reduction varies from 10 to 25 per cent of the charges for patients. It constitutes the normal commercial relations, that is man-to-man relations between the druggist and the physician on the one hand doing the service and the consumer on the other hand receiving the service. As a former business man the author unhesitatingly states that this is the only proper way in which to look at the matter.

Case VIII.—It was summed up by one of his patients recently for whom as an accommodation he had provided a bacterine with the remark that of course a physician could obtain such supplies at a much lower figure than a patient. His answer was most instructive and its principles should be remembered by all physicians: "Buy druggists' supplies at prices lower than a patient—of course the doctor can and why shouldn't he? As a printer I can buy paper and all my supplies much lower than the consumer. Why? I benefit the wholesaler when I place my order with him. The wholesaler benefits the manufacturer when he orders his stock. All three of us together benefit the consumer who buys of me. There is no other man-to-man relation in commerce possible except that each of us should make a suitable profit which the consumer pays although he surmises but does not know its amount in each case."

Although, as the biblical scholars put it, no parable can travel on all fours and in other words although no illustration ever covers all the phases of a question, the general application of this statement by the printer to the practice of medicine is undoubtedly correct.

As a former business man, it has always seemed foolish to me for physicians to attack the principles of commerce, particularly in the sense of man-to-man intercourse and less emphatically in the sense of actual trade. These principles are practically laws of commerce based on long experience and representing the best in human accomplishment. With the eye ever fixed on avoiding grasping and sordid relations may not the question be fairly and squarely asked why the medical profession has lagged behind for so long and so far that it well-nigh deservedly has lost its birthright to a livelihood in the sense that other vocations secure a livelihood? As details of commercial customs necessarily followed by physicians let us consider the methods of bookkeeping and accounting, the use of money between individuals and

in exchange, the doctrine of chances as applied to life insurance and the like. Far be it from any wise man to say that consideration and conformity with commerce in this sense is degrading to the medical profession.

Wholesale prices of drugs made to physicians rest on the commercial principle that he is identified with the trade or business which as a whole serves the patient just as he personally serves the patient. This trade relation is a dignity and nothing else which carries with it privileges (using this word in its exact sense of *private rights*) properly favoring the insider and not the consumer or outsider.

If any reader does not accept these general principles, let him consider the converse of this proposition, whereby the vast majority of the physicians will treat their druggist or chemist at a reduced fee on exactly the same principle, namely, that the druggist in the last analysis shares in part the service of the patient with the physician.

Let us call this relation "the special relation privilege" and see how it applies to other matters quite parallel with those of the drug store. The service of patients in these matters corrects and mitigates what might otherwise be considered a selfish viewpoint.

Other examples of the special relation privilege arise from laboratories and such businesses as those of the optician, truss-maker and the like. A comparison between the druggist and these activities is the old against the new; the tangible service against the intangible service; familiarity by the public against their lack of education and discernment in such matters.

If a physician has a laboratory within his own office he must charge for its services in terms of the examinations as such which constitute his outlay in salaries and the like as his overhead and his own study, examination and application of the reports to the other findings in the case as such which constitute his own personal service. If these items are not covered the physician simply does this service at a loss, and a sufficient number of such losses in the year are the reason why many physicians do not earn a livelihood.

If now the laboratory is not in the physician's office but works with it, then as concerns the patients who cannot comprehend the propriety of separate fees, the budget system again must apply whereby the laboratory gives the physician wholesale prices exactly as the druggist does, because in the last analysis the laboratory and the family physician serve the patient.

If this is not reasonably the fact let us consider the position of the family physician, if instead of reviewing one laboratory report and bringing it into careful co-ordination with all his own examinations he has a dozen such reports in one day. The time required for each review might easily be ten or fifteen minutes, so that the time consumed would be several hours for which the physician would receive no remuneration, unless patients realize that such service is equivalent to an office visit. When patients do not belong to this class it is an open question whether or not the principle of special privilege or of wholesale prices should not apply between the laboratory and the physician. One may further emphasize the professional service by saying that many careful physicians will call in the specimens and investigate them in their own offices or will call at the laboratory for examination and conference. The net outcome of this thorough work is often a modification of the opinion of the laboratory and in this way the laboratory itself is served in terms of preventing errors. The physician does protect the reputation of the laboratory in this way.



CASE IX.—An illustration of this problem is an experience of the writer in which a patient rather suddenly developed kidney symptoms. The man had been in his care for many years and had had approximately two dozen full examinations of the urine. The time required was two hours to correlate these reports so that the course of important elements in the urinalyses could be read in one line and studied. This patient willingly paid a proper fee for this work. If he had not done so then a very large element in the overhead costs of the professional work of that day would have been imposed without any reason whatever except the ignorance of the patient.

If overhead losses were repeated from day to day for a month or a year, the doctor could very well show loss instead of an income on his services and time. These principles apply with double force to such services rendered to patients living on a budget. The meaning is a simple one that those commercial plans must be applied to practice which are grouped under the higher meaning "commerce"—namely, man-to-man relation, as already discussed earlier in this contribution.

Let us take another specialty in medicine—ophthalmology. Thorough ophthalmologists arrange a lump fee to cover the original prescription for glasses, a control examination for checking the said prescription, and finally a test of the glasses themselves. Because so many patients do not understand that the income of a physician must represent a time-rate otherwise he cannot live, a single fee is fixed and paid for these three steps. This lack of appreciation of the time value in a physician's life is in contrast with the familiar fact always acknowledged that when a plumber leaves his shop for a job the time-cost begins at that moment and ends when he returns ready for another job or passes directly from one job to another. This is sound business policy. Equally sound would be a similar professional policy provided the profession were a unit in instructing the laity accordingly.

Comparison with the plumber's time-allowance is in order, but physicians usually do not realize it. Country practitioners regularly charge for time and mileage in going distances. Consultants usually charge hourly rates to cover time and income while serving patients at a distance. These customs are old, honored and accepted. They are right. Inasmuch as they are right, the other similar principles must be right. It is not possible for one to be right and the other wrong. Similarly telephone advice is charged for by wise physicians, usually at office rates. They should be charged for at house rates, because the absence of objective contact with the patient adds to the difficulty, responsibility and liability of the doctor.

Let us take up the third of these three steps and see why it is not improper for the optician to sell to the ophthalmologist spectacles at wholesale prices exactly as the druggist sells supplies. The inspection of the glasses not only serves the patient but also protects the manufacturer of the glasses. Again interrelation is brought into play to make wholesale rates on the prescriptions at least reasonable and fair. Is it not time for these questions to be considered openly owing to the ever-changing relations between the medical and the outside worlds?

Case X.—Recently the author was fitted with glasses, but the dealer made a mistake in putting the lenses too near the eyelashes and too low on the nose by fully a millimeter. The glasses were uncomfortable and the feeling was growing that either the prescription had been wrongly filled or wrongly written. The ophthalmologist through his inspection instantly saw the difficulties and wrote another prescription directing the dealer to make the changes which cured the trouble. If this particular dealer realizes how his reputation was protected by such inspections and all others like it he would be freely willing to give wholesale prices to the eye-specialists who are conscientious and thorough in this way.

Again the principle applies that if instead of one or two inspections per day without remuneration an eye-specialist made ten or twenty he would spend much of his professional day in the amusing labor of such corrections without remuneration. The proposition seems to the author untenable that an ophthalmologist should not receive wholesale prices on the glasses he prescribes and checks up by time and service although he receives wholesale prices on drugs and supplies which he consumes in the service of his patients. *Either both are right or both are wrong. It does not seem possible that one is right and the other is wrong as a matter of common reasoning and commonsense.*

Exactly the same principles apply to the manufacturers of such apparatus as trusses.

Case XI.—The author had a case in which the truss or belt had to be designed by himself because the manufacturer did not understand the anatomy sufficiently to make a successful apparatus. Notwithstanding this fact neither the patient nor the trussmaker has in any way remunerated him for this particular and great service.

Such a result constitutes an impropriety in the opinion of the author and it may be said that he is fortunate in not having been obliged to give his services very frequently in such a degree and without pay.

This paper should not close without reference to the white-collar class and their new problems. The white-collar class is made up of individuals of reasonable intelligence who can earn relatively small salaries. In a recent conversation with a writer on social problems the author advanced the following thoughts which neither this writer nor the author himself had ever seen in print or heard. The high and rising cost of living has made the budget item of rent for these individuals so high that they cannot control the floor space necessary for sickness. Therefore it has more or less suddenly become necessary for hospitals to provide not only accommodations but rates of cost which will meet the situation at least half-way. At the present the demand has outrun the supply more or less as a surprise to hospital authorities. The boomerang of blame has struck not the social conditions aforesaid which underly the whole problem, and not the hospitals, but rather the physician whose normal charges even at reduced rates to such patients are considered too high. *Certainly the practitioner of medicine is "out of luck" in all such problems.* As a matter of fact, the reduced fees of the physician are not at fault, but the more important details of excessive cost of living and inadequacy of accommodation in hospitals for patients who range between ability to pay for private rooms and disability to pay for even ward beds. Again the situation is that of full care for the wealthy and the very poor but somewhat deficient care for the middle class through the economic status of that class in which the physician plays little or no part and through the slowly developing facilities among hospitals for greater accommodation of the white-collar group.

A solution supposedly applied to the ambulant patients in this group is the pay-clinic. Seemingly such clinics are just beginning to attract attention as a means of ostensibly saving something in the medical budget, but in the opinion of the author the loss to the patient is represented by the difference between the privacy and dignity and advantage of personal contact with one skillful physician throughout and the more or less impersonal serial contact with the staff and other workers of any institution. Passing into the social world, if these principles are not true, then the individualized personal relation of family life had best be given up in favor

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# The Diary of the Great Mucous Membrane Disease: The Socalled Common Cold

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For ages the layman has continually complained that almost every ailment that attacked him was due to his "catching cold." This is one of the oldest problems of medicine and since the advent of scientific medicine the idea has gradually become general among physicians that this phrase of "catching cold" was one of the ancient ideas that remained from pre-pathologic days and therefore like most of the gropings of that time, it is believed to have been faulty.

The present generation has striven to substitute an entirely new terminology for the onset of disease on the basis of post mortem pathology. In other words the nomenclature at present predicates that disease as such generally appears de novo. A patient has, perchance, a pneumonia, rheumatic fever, appendicitis, etc., as a brand new infection without the intervention of any other antecedent pathology. Now in many but by no means in every case, if close attention be given to the antecedent history another set of phenomena often antedate the onset of at least some diseases and such a syndrome may properly be called a herald. We are now raising this question: Whether the head cold is not frequently a herald as well as at times the captain of the men of death.

In practice the most frequent edition of the patient's history is that at the onset of his illness, he experienced a group of symptoms in every way identical with those of the common cold but within a few days this symptom complex was less in evidence, and a group of new symptoms appeared, which we scientifically have denominated as pneumonia, rheumatic fever, appendicitis, gall bladder disease, thrombosis, etc.

It will be granted that the onset of all of the known infections are preceded by a period of incubation during which the disease progresses up to the time of recognition and this is known as the period of incubation. In like manner we believe that the real date of infection of the common cold occurs much earlier than is generally recognized. Incidentally one who feels uncomfortable in draughts does not always go home and develop at once a so-called cold as a result of the draught, but if for any reason, systematic rectal temperature readings have been taken for a day or two previously, it will be found that most frequently the patient becomes conscious of the draught because already he has a very slight temperature and is already infected.

On the other hand, by no means is one always infected, when he is conscious of a draught. The conception that a draught could initiate an attack and incubate a true cold within a few hours is scarcely thinkable. That numerous people who ride in the trolleys and in trains daily with the attendant draughts and do not have an attack is sufficient collateral evidence to render such a universal draught contention as absurd.

This brings up the question, what is meant by a common cold?

There are three common symptom groups of this phenomena well recognized at the present time.

- (1) An anaphylactic phenomena usually afebrile associated with a Vaso motor disturbance and comparatively uncommon and due to some form of allergy which is called hay fever, asthma, etc.

- (2) Another simulant of the above lasting a few hours and disappearing completely which is attended by a stuffiness in the head following a full meal and which basically is due to sudden enlargement of the turbinates. These turbinates enlarge normally after a full meal in all people, but in a few individuals so much swelling occurs that the enlargement is sufficient to produce symptoms, which if troublesome enough, is relieved by frequent doses of bicarbonate of soda or by a purgative. It is an afebrile affection.

- (3) The ordinary head cold.

This condition which is by far the most common of the three and commonly makes its presence known by sneezing, rhinitis and often an itching sensation of the roof of the mouth when it is touched by tongue, by loss to some degree of the sense of taste and of smell and perhaps by a slight soreness on one side of the throat noted on swallowing saliva. On inspection one notes the signs mentioned later in this communication, all of which must have been incubating for several days before symptoms are noted. It is nearly always accompanied by a slight rise in rectal temperature.

The visible signs of the infection of the common cold and of influenza that are easily noted are as follows:

- (1) Congestion of the external limbs of the conjunctivae.
- (2) Red lips—resembling the rouged lips of the present day.
- (3) Redness of one or both nares.
- (4) Redness of the anterior palatal arches sometimes extending one-half way up, or again forming a complete arch.
- (5) Blood on a swab that has been put up behind the uvula.
- (6) Red papules and redness of the uvula.
- (7) A sago grain like eruption in the soft palate seen best by reflected light.
- (8) By hemorrhages in the sides of the mouth and soft palate and indistinguishable from the appearance following a recent smoke.
- (9) By Stenson's Duct phenomenon.

The latter phenomena consists in a marked elevation of the opening of Stenson's Duct, just opposite to the second superior molar teeth with a deeply stained puncta, often resembling a hole such as might be made by a needle prick. It is present in about 70 per cent of the head cold patients and it is also seen in some patients suffering from mumps. It is seldom present in those who have lost their upper back teeth. Redness of other mucous membranes, such as the vaginal mucous membrane, when seen through a speculum, may oftentimes be visualized. This is also occasionally true of the mucous membrane of the eardrum which at times shows a distinct redness along the handle of the malleus on one or other side. This is to be especially looked for in the presence of vertigo. That signs of other inflamed mucous membranes are at times present is also doubtless true but because of their inaccessibility, the appearance is not always of practical value.

It is rare to note all of these signs at the same time,



but there is during the course of the so-called common cold, at least three of such signs present, the most constant being the eye, red faucial and uvular signs. Many of the profession will admit the presence of some or all of these signs in severe influenza, but that they are present in an ordinary common cold which does not lay the patient up in bed will be doubted.

This is an opportunity to bring in the old Chinaman, "Look See."—He is a wonderful aid here. The dust of an old battle arises here as to whether influenza and the common cold are one entity or that they differ as to cause.

As expressive of the latter belief is a nomenclature in use by a large number of the profession—as the following:

- (1) A mild disease classified as a head cold.
- (2) A little more severe disease which is termed *la grippe*.
- (3) A more serious disease—*influenza*.

This nomenclature satisfies the layman but personally we can see no difference between the so-called cold and mild influenza except in degree. The characteristic signs are the same in both and it is impossible for anyone to prognosticate the eventual outcome in any large percentage of cases of so-called cold.

The number of distinguished persons who have departed from this life because of the fact that the initial slight cold of to-day becomes the pneumonia of the following week needs some explanation. In other words we believe that these cold and influenza phenomena bear the same relation to one another as a very mild scarlet fever with a rash of a few hours duration does to a severe scarlet fever, yet most physicians will agree as to the identity of these two and to the fact that the after results may be as severe in one as in the other.

A similar sequence follows when one sees little Johnnie's mouth with its redness and signs described above with merely the symptoms of an acute coryza lasting a day or so, and when three or four days later his father contracts a similar cold with the same signs and symptoms yet the father often dies within a few days and the death certificate states that the death is due to influenza pneumonia. In passing it may be stated one infected person commonly infects the whole family.

The habit of thought engendered by the severity of the epidemic of influenza of 1918 naturally prevents most of us from comparing a harmless head cold syndrome with the type cases of the epidemic form. But if one takes cognizance of the analogy existing between the annual crop of locusts and the seventeen year locust crop one notes but little difference anatomically, but one notes much difference between the results, and a similar analogy holds between the annual crop of cords with the thirty year variety of high violence widely called influenza.

It is the general belief that the common cold lasts but a few days and that influenza lasts a longer period—most of the profession believe that the common cold occurs, gets better and as a result of some unfortuitous circumstance, within a few days the patient "catches" a fresh cold. However, if one keeps a constant watch on the mouth and eye signs for an extended period, it will be noted in all instances that the so-called cold is present for the entire period of six or eight weeks and the patient although seemingly well is always likely to break out with a severe attack just as long as the eye and throat signs persist.

In other words the patient carries the infection. When such an infection is present no one can predicate when it will explode ushering in perhaps a pneumonia,

an encephalitis, etc. It is, however, usually in the second temperature elevation of the disease that the sinus symptoms occur and it is in the second week of the disease in what the doctor has called a common cold that the chest explosion occurs although it occasionally appears as late as the fifth or sixth week. Rarely is there a chest explosion if the sinus involvement has been severe.

The duration of the majority of such complete attacks is usually from *four* to *six* weeks, occasionally the attacks last as long as three months or as short as two or three weeks. It does not follow that any large percentage of patients will consult a physician many times during the progress of the malady. Once the diagnosis is made and some relief obtained at the time, the patient bears the attendant discomforts philosophically and is satisfied that he is always catching fresh colds.

Foretelling at the first visit such a course of six weeks of possible intermittent illness while disconcerting at the time increases the patient's respect for the physician and prevents him and his friends from becoming discouraged or from putting on an injured expression at the second or third visit. The layman frequently takes the attitude that after he has turned a patient over to the physician, then any relapse or attendant new symptoms is the problem and duty of the physician to avert and so when one announces that the patient suffers merely from a slight cold it requires much persuasion to convince the patient and his kin that this ailment is a slight one when the consultant a week later pronounces it as broncho pneumonia. The mental depression that is so common as a symptom during the recurrence of this influenza disease is much relieved by the knowledge at its onset of the possible length of time of the attack.

After making this statement of the possibility of the length of duration of the symptoms, one should also state that it is not likely that more than a few of these symptoms may come within the ken of the patient. It may be pointed out that this slight recurrent temperature phenomenon is rarely noted except on a hospital chart when the patient is confined to bed. One should always be careful to state that there may be no need of medical care but that the disease will remain with the individual for such a period. This phenomenon of the almost uniform recurrence of the definite spell of fever is easily noted when one has a patient in a hospital who is suffering from some other infirmity and who then contracts the so-called common cold. When the daily temperature chart is observed over a period of weeks, it proclaims the continuity of spells of rectal temperature and with little or no complaint. When one views such a chart with its regular ups and downs, often with a period of broncho pneumonia in a patient who cannot get out of bed, we are strongly tempted to disbelieve the ordinary statement given to the patient suffering with a cold who gets up and goes about and then develops a chest complication, that he has developed the pneumonia because he has gotten up and gone about the room or in the parlance of the laity he "got out of bed too soon."

Another important fact is that such a so-called head cold once contracted usually repeats itself at intervals of either sixteen or thirty-two weeks, or a multiple thereof, most commonly it returns at the thirty-two week period. In not a few instances the recurrences seem to appear in fourteen weeks or a multiple thereof. Such periods of recurrence go on repeating for years and years so that at least in adults it is almost a truism to say that once influenza, always influenza. This statement will be denied by almost every physician when he hears it for the first time and unless one checks up the



dates of onset of all of one's head colds this fact will seem scarcely possible.

By this statement we do not mean that every one who has influenza will have marked recurrences in every year. In most people it will be manifest only as a coryza for a few days and with alternating slight attacks of discomfort throughout the period and the whole sequence passes unnoticed.

This recurrence period within stated dates is by no means always exactly uniform. One counts from the earliest symptom of any disturbed function, whether rhinitis is or is not present, as the date of onset. Many times the period will be recognizable as twenty-four to twenty-eight weeks but in more than 60 per cent the thirty-two week period or multiple thereof will be present. This pronouncement of when the last head cold has occurred and when the next one will occur, if true or nearly so has a startling psychological effect and is akin to necromancy. Cardiacs usually have a reincarnation of the attack every sixteen weeks in the fall, winter and spring months. The months of October, late in December (between Christmas and New Year) early in January and early in March are the commonest times for the return of the attack. Others are affected in September, June and so on. An attack noticed in the summer is unusual.

In the attacks that occur at sixteen week intervals there is often a decided difference in the nature of the premonitory symptoms. For instance, in one case the first attack may begin with respiratory phenomena, in the next recurrence perhaps as a three-day backache, muscle soreness, lameness, vertigo, etc.

As to the duration of each single flare up of the attack—this is three and a half days and the temperature chart is one of the most distinctive types of temperature range in the whole field of medicine. It is quite as distinctive as the fever chart of a quotidian malaria. The temperature must be taken by rectum, otherwise the contention will not seem to be true. In a few cases the pulse will rise instead of the temperature, but this is unusual. The reason for this pulse rise, I have no explanation as generally during the disease, the pulse is slow and the leukocyte count low.

These three and a half day elevations continue to a greater or less degree for from three to six weeks. During the period of these secondary elevations we charge up the weakness so often present for two or three days at a time to convalescence from the infection. As a matter of fact such symptoms with a slight temperature rise argue for a real continuance of the disease and a real explosion may occur at any time in the course. During intervals of a day or two the patient generally feels quite well, and after the first or second rise the elevation commonly persists only for a day or two and at the same time the symptoms characteristic of the attack are seldom evident for more than a short period. The interval of nearly normal temperature between the individual attacks in the series varies from six to forty-eight hours. It is exceedingly rare to see a repetition of the attack after four days of normal temperature. During the interval between the attacks some of these signs will to some degree always persist in the mouth.

The following suggestions are made as to why some patients are infected more frequently and more continuously than others:

- (1) That there is a maintenance of foci of disease in the air passages such as polyps sinusitis, deviated septa, etc.
- (2) That there are many different kinds of strains of the organism infecting the patient in succession. This is suggested in the uncommon cases

that are already suffering from the appearance of the disease and who have a recurrence of an attack with different characteristic symptoms on the exact date of onset of the new wave.

- (3) Lack of hereditary or acquired immunity.
- (4) Exposure to cold and wet, alcoholism, Etherization, severe exertion or any grave exhaustion. We have in another place pointed out that the frequent appearance of broncho pneumonia following etherization by one who has a severe head cold or where the patient is attended by a nurse similarly affected.

Added to this problem is that of the carrier in the person of one who is infected and who carries the disease often for life without exhibiting symptoms except possibly slight head colds when the stated periods recur. Closely related to this is the question as to why does the disease manifest itself on the same day in the same city on patients who live miles apart. On another day three or four days later comes another crop of colds in people who live miles apart from each other with no possible means of contact. Many theories have been proposed to explain this problem. We would suggest that perhaps people are infected from time to time by carriers of a type that carry an infection which is due to exhibit its symptoms on a certain day just as potatoes or any other vegetable or fruit becomes ripe on or about the same day within a certain area, or as peaches become ripe on a certain day in Georgia and some days later in other districts further north.

That in many instances influenza does not begin with respiratory difficulties has been well known since the time of Leichtenstern. But that a common cold which as we have stated is merely an attenuated form of the malignant influenza should likewise begin with symptoms, other than those of the respiratory tract is not so well known. Often one meets patients who have been symptomless as far as the respiratory tract is concerned and yet who come with the story that for a week or two they have suffered from malaise or from an unusual loss of sleep, or of sleep associated with an unusual amount of dreaming, or have gastro-intestinal disturbances of various kinds, such as painful digestion and constipation or general nervousness and yet up to the time of examination they have had no respiratory distress. The mucous membranes may show all of the distinctive signs above noted just as truly as a Koplik sign predicates measles. Whether these phenomena may be classed as evidence of incubation or a real stage of this great mucus membrane disease is an open question. In these patients after a week or two slight but very definite respiratory symptoms commonly manifest themselves. Here as elsewhere in medicine, there is "No" nor "Never." Such a patient will usually expatiate on how he took "cold" in his stomach or bowels and blames this "cold" as the cause of the onset of his symptoms. As before stated there is much truth in the statement that he has caught a cold, translating it as an expression, that he has been infected with common cold or influenza without respiratory symptoms. As among the symptoms as to modes of onset, one may mention the following: Yet in every outcrop of the disease the modes of onset will differ.

(1) The common respiratory phenomena (consisting of an inflammation) of the nose, throat or bronchi which is by far the commonest group of symptoms at the onset of the so-called cold.

(2) As aches and pains: In most instances of head cold the pains and aches are quite mild and last only a day or two—forgetfulness is commonly achieved through aspirin, alcohol or a good sweat.

Toxemia is a term that is often used to explain the eventual origin of these various pains and aches that jump from place to place and while such an explanation often serves as a smoke screen to a layman, it scarcely serves to explain the pathology of pain as such. It has seemed to us that the visualization of some form of cerebral process in the basal ganglia that comes and goes as it does in encephalitis more nearly serves to visualize the ultimate origin of these pains. Whether the pains are due to the presence of a collar of newformed cells about the blood vessels in the internal capsule or basal ganglia with the collateral edema that accompanies this inflammatory reaction or to edema due to other causes is an open question but the terminal station for pain appears to be in the mid brain and this conception displaces the usual figure of toxins circulating in the blood. In passing it may be stated that many other symptoms are common to both encephalitis and influenza.

In another communication we have called attention to the relation existing between the syndrome known as devil's grip and influenzal head colds. This syndrome appears from time to time with a head cold and in some phases closely resembles encephalitis lethargica.

(3) Another uncommon mode of onset consists of spells of vertigo often combined with staggering, particularly noticeable on arising. These symptoms are present especially in those suffering from an old ear trouble. A frequent accompaniment of this phenomena is an enlarged turbinate with acute eustachian catarrh and redness of the handle of the malleus all on the same side, which leads one to the inference of an internal ear disturbance. In such vertigos it is wise to prognosticate that the vertigo will last on and off for at least three days but that the symptom will not be constantly severe.

(4) Either the tubal catarrh or the infection of the post nasal space may account for the multitude of head pains and soreness noted, but most of such pains may be traced to the frequent involvement of Meckel's ganglion. This is evidenced by the pain so commonly noted posterior to the mastoid process which is referred through the vidian nerve. When this process of reasoning is carried one step farther the so-called Sluder neuralgia becomes understandable. The neck ache and pseudo cardiac pains and similar aches are commonly referred through the connections of the vidian nerve with the superior and inferior sympathetic ganglions and the cardiac plexus.

This will explain the increase of epicritical sensibility often present over the apex of the heart in head cold and which usually requires much explanation to the patient in convincing him that he does not suffer from heart disease.

(5) In other communications we have pointed out the relationship existing between the influenzal head cold as a herald of the onset of apoplexy, of the relighting of an old endocarditis and of other vascular disease phenomena.

(6) The relationship of attacks of angina pectoris and of heart block with head colds are sufficiently uncommon that they usually escape notice. In most of the deaths of so-called acute indigestion a close inspection of the mucus membranes will show that the "cold" has preceded the attack whatever the ultimate pathology may be.

(7) In hypo-thyroid patients, crops of canker sores frequently are present at the inception of the attack. Incidentally these thyroid patients are not so commonly attacked by the cold, but if so attacked they are apt to have an unusually severe attack.

(8) The onsets with nervous phenomena such as irritability and mental depression, readiness to cry, etc.,

are commonly credited to bad temper, or to being run down or to a neurasthenia. Insomnia for a day or two in a person who has not been subject to loss of sleep is always a symptom that looks suspiciously like the onset of the "cold" and all of such symptoms call for a rectal temperature reading.

(9) Likewise sudden onsets with temporary loss of consciousness not infrequently come into the hospital and yet when kept in bed for a few days a typical temperature range and some of the phenomena of head cold may often be present.

(10) In the aged an acute psychosis or stupor is not rare. This suggests the query, as to why one finds in the mouth of the alcoholic who is suffering from delirium tremens the evidences of the head cold which is not present in the mouth of his neighbor who perhaps drinks twice as much alcohol.

(11) The relation existing between tonsillitis and disease occurring throughout the gastro-intestine canal and gall bladder region has been pointed out by Rosenow years ago. We should like to credit a similar reaction of this gastro-intestinal system to head cold, or as we choose to call it, the great acute mucus membrane disease. Infection of some kind may be present, yet according to personal investigation the sequence of head cold with ulcer, appendix and gall bladder is much more common than is the history of tonsillitis preceding gall bladder and ulcer pathology.

(12) Another group of digestive symptoms similar to those frequently met with in appendicitis, ulcer and gall bladder disease and, which for want of a better name have been variously termed fermentative dyspepsia, nervous indigestion, etc., without any certainly known pathology, are frequently associated with the onset of head cold.

The simultaneous cyclical recurrence of these symptoms with the return of the ulcer and the head cold after a period of an approximatity thirty-two weeks interval, as well as the duration of acute symptoms in both for six weeks, the slight rise in temperature, with the head and mouth and mucus membrane signs of influenza are all suggestive of a relationship.

(13) Constipation is such a minor symptom that it is scarcely ever noted in the story of the patient, but if one questions the average head cold patient who has not been a sufferer from chronic constipation it will be commonly noted that an acute constipation to a greater or less degree is almost invariably present with each head cold which is in line with the contention that all of the mucus membranes take part in this disease.

(14) As an occasional accompaniment of the onset of head cold may be mentioned a gingivitis consisting of areas of redness about one-quarter of an inch at the bases of the teeth, which gingivitis is occasionally associated with an aching in the region of the teeth, this symptom is often called a neuralgia by the layman. This pain is especially noticeable when cold solutions are taken into the mouth and is independent of serious infection.

(15) The backache that is usually present may be the result either of the effect of the disease on the mucus membrane of the intestine or of the effect of gas and flatulence resulting from the inflamed constipated bowel, or again as a result of some cerebral change much like the central pains of encephalitis.

(16) One may occasionally note at the onset an attack of continued nausea of central origin. This is relieved by sedatives acting in the central nervous system and not by gastric sedatives.

(17) In old people as weakness. In the case of any old person who suddenly complains of weakness and no

(Concluded on page 128)



## The Importance of the Tonsil Capsule in Preserving the Anatomical Relations of the Palatal Structures

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The operator upon the tonsils today presupposes that the structures of the so-called tonsil capsule were put there for his convenience solely. While it is true that the loose tissues just beyond the tonsil form a convenient line of cleavage in operating to remove tonsils and if the operator is content to remove the dense compact layer of connective tissue with the tonsil parenchyma, the tonsils may be enucleated in a variety of ways quite expeditiously. Unfortunately this connective tissue layer which lies just beyond the tonsil parenchyma has important functions to perform and its enucleation causes very pronounced changes in the structures of the soft palate of which it is an integral part rather than a part of the tonsil as is ordinarily supposed today.

Considering the soft palate and its purposes, it is immediately manifest that this is a very important structure and plays important parts in such function as speech, deglutition, respiration, etc.

The soft palate is anatomically constructed to best serve its important purposes and radical changes in its structure or the relation of its parts as a result of operation should not be ignored.

In the soft palate are several actively functioning muscles. These muscles are incorporated in the musculo-membranous curtain and so attached as to give to the structures a facile and exact movement to meet the varying needs of speech, swallowing, etc. Among the important muscular structures are the muscular bands which make up the anterior and posterior pillars. Between these bands and between them and the muscles and muscular layers which make up the walls of the pharynx proper is a fibroconnective tissue structure which holds all together and gives them a fixed anatomical relation to each other and to the other structures of the oropharynx.

The tonsil capsule so-called is not a capsule at all but merely a part of the connective tissue structure of the soft palate and the tonsil itself has merely been laid upon it. It is true that projecting into the parenchyma are very small bands of connective tissue which serve in a small way to give form and support to the parenchyma of the tonsil but the underlying base membrane upon which the tonsil rests should not be considered a part of the tonsil but much more properly as a part of the soft palate.

In enucleating a tonsil if we are content to go entirely beyond the tonsil to the underlying pharyngeal wall and to remove all tissues to that point by the technic ordinarily employed, tonsil removal is facilitated. But have we the right to take away a supporting structure which plays an essential part in maintaining the relations of the palatal muscles? I do not think so and I do not believe that the man who will give this matter serious thought will continue to think so.

Let us examine the far-reaching effects of a tonsillectomy when the connective tissues underlying the tonsil are removed with this structure. Who has not noted the appalling hole left by a tonsillectomy in which the underlying connective tissues, the so-called tonsil capsule, has been taken away with the tonsil parenchyma. Why is this hole so much larger than the tonsil which has been removed? It is obvious that this marked change in the

relations of the pillars which occurs is due to the support which has been removed, namely the capsule of the tonsil not the tonsil parenchyma.

What are the results of removal of the tonsil capsule with the tonsil? The large gap which immediately forms between the pillars when the tonsil and capsule are removed must gradually heal by granulation. Does the granulation and cicatrization bring these structures back into normal relation? Look at a healed soft palate a month later. There is a no drawing together of the muscular pillars; they remain widely apart and their well defined character is diminished. Look at this same case four or five years later. The muscular character of the anterior pillar is lost; it is a thin membranous band, giving no evidence of underlying musculature. The posterior pillar has become merely a thin membranous margin to the palate. The characteristic musculature which identifies the normal posterior pillar in the throat which has not been operated upon has entirely changed and it is to this change that many of the disappointments of tonsillectomy can be traced, for it is the observation of more than one unprejudiced surgeon that some patients are made worse by tonsillectomy rather than benefited.

When we propose to the average surgeon that he preserve the tonsil capsule, he contends that it is necessary to remove this structure with the tonsil parenchyma if a thorough removal of tonsil structure is to be effected. It is true if we follow any of the tonsillectomy technics now in vogue that such removal of these underlying connective tissues must be done but what would we think of the surgeon who insisted that he must cut the leg off at the knee because he could not make a smooth section through the shin bones. What would we say of the surgeon who insisted upon making a flail joint in doing an operation upon a joint because to do an arthroplasty which would give a movable functioning joint was more difficult.

It serves no particular or useful purpose to remove a tonsil in five seconds. Some insist they must use a guillotine because only with a guillotine can they operate so quickly. It is impossible to design a guillotine which, if it gets all the tonsil, will not take away with it the so-called tonsil capsule.

If we insist upon doing a blunt dissection, removing the tonsil with finger, dissector, or scissors, we must follow the line of cleavage beyond the tonsil. But must we operate in that way?

It is common custom to call the vessels of the pharyngeal wall which course up along the internal surface of the constrictor pharyngeus behind the tonsil the tonsillar vessels. These are not tonsillar vessels; they are the vessels of the pharyngeal wall and they vary in size and tendency to bleed. These vessels must be opened when we enucleate along the natural lines of cleavage. Upon the tonsil or parenchyma side of the capsule there are no vessels of appreciable size surgically. Histologists describe a large artery along each crypt, but this is speaking from the microscopic standpoint. From the surgical standpoint the vessels in the tonsil parenchyma are insignificant in size. We have then in any enucleation which stays internal to the tonsil capsule or the support-



ing membrane of the tonsil a means of avoiding vessels of surgical importance. This practically eliminates the tendency to bleed to any appreciable extent in all patients whose blood shows a normal clotting time. This is an appreciable advantage in tonsil surgery for every hospital in the country has seen cases where troublesome, dangerous and sometimes fatal bleeding has followed tonsillectomies.

To say that we cannot remove all the tonsil and leave the tonsil base membrane is pure foolishness. Operators make this statement to me. They are like the surgeon who is unwilling to avail himself of a saw in amputating the leg and insists on disarticulating at the knee. If we change our method of procedure it is easy enough to remove all lymphoid tissues from the tonsil capsule and leave all the tonsil.

Years ago operators proposed what they called capsule splitting operations. They tried to devise tonsillectomies which would leave a maximum of capsule in the pharynx and take a minimum of capsule with the tonsil. From a surgical standpoint if you take any of the capsule, you will take all of it. If the base membrane of the tonsil is to be left all of it must be left. How can this be done? By changing the technic, by lifting the plica from the anterior face of the tonsil and making the enucleation through the tonsil structure, a procedure easy to do if one merely aims to do it. A sharp knife can be used to cut out the mass of the tonsil parenchyma. This will not include any of the capsule. If the operator then take a smooth easy cutting punch and press it gently into the cavity left by the removal of the mass of the tonsil, it is easy to shear off the tonsil structure from the capsule. It is very easy to differentiate tonsil parenchyma from the compact linear connective tissue of the capsule and if round punches are used and pressed gently

into the thin layer of the tonsil parenchyma which has been left by the sharp dissection through the tonsil structure, it is easy to shear off all the lymphoid tissue. If a pointed punch, such as the hawk bill, is used, it is likely that the operator will cut through the capsule as well as tonsil structure if he is not on the alert to avoid doing so.

Tonsil operations are easily and painlessly performed with infiltration anesthesia. The tonsil structure itself bleeds little. If the solution contains a small amount of adrenalin there is hardly even an ooze to cloud the field. The operator needs to have his patient calm and steady. He needs to have a good view of the pharynx, but this is not difficult as there need be no pain from the operation. After working along the lines I advocate for a few months, it is easy to shear out tonsil parenchyma and not mutilate the structures proper of the palate. These structures subsequent to operation do not undergo the marked changes which occur after removing tonsil and base membrane. The pillars lie in proper relation after operation and remain so. It requires a careful examination of the soft palate to see that the tonsil has been removed. The gaping separation of the pillars never occurs and the pillars retain their normal muscular character.

Healing after these operations is very much shortened as there is no large wound to granulate and cicatrize over.

The dangers of infection are much reduced. No surgeon of much experience has not seen dangerous septic infections follow tonsillectomy. The tonsil capsule is the most effective protection against infections in the deeper pharyngeal structures.

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## The Physician's Month in the Law Courts

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One of the most notable features of our civilization is of course the progress of what is called scientific knowledge, certain physical facts, that is, together with the application of that knowledge by means of what are called inventions. Nobody questions the value of these applications to the general improvement of mankind, nobody except perhaps some more or less distraught fanatical folks. Amid the congratulations which we properly exchange with each other on our "improvements," the other side of the picture is seldom perceived, which other side reveals the fact that while a modern discovery, or invention, is benefitting man physically (using that word in its broadest meaning), it may at the same time be seriously dislocating his legal rights; that is, his moral relation with his fellows as members together of organized society. A couple of illustrations will clarify the thought.

With the wide and steady spread of workmen's compensation acts (sometimes called industrial insurance) throughout the states of the Union, a very considerable and profitable block of litigation was taken from the practicing lawyers. So considerable a block of litigation was this that the prosecution of the suits of injured employees against their employers was practically the sole business of not a few lawyers.

On the bread-and-butter side of the law practice, therefore, there was some apprehension, and among the more commercially minded lawyers, some complaining at the

encroachments of the state authority in this domain. This apprehension, however, was allayed from another and unexpected direction—by the growth and development of the automobile. No one doubts the value of the automobile to the community generally, but its use has resulted in the growth of a mass of litigation of far greater volume than that which was lost to the legal profession through the acquirement by the state of the control of the physical injuries of workmen. If one were to remove from the dockets of our courts all the so-called automobile cases that are on them today the remaining litigation would look remarkably attenuated.

So, also, with the litigation which has followed the introduction of the use of the x-ray. I venture to say that the modern practice of medicine would certainly be impossible if the wonderful function of the x-ray were withdrawn; its ministration to the wounds and woes of the body has been angelic. Yet one cannot follow this column for very long without being deeply impressed with the thought that this most beneficent discovery has been the prolific parent of a great volume of vexatious and disastrous litigation to the medical profession. In this aspect the x-ray stands out with particular prominence, but it is also true that practically every improvement of method in the medical profession carries with it the possibility of litigation. When an improvement emerges from the laboratories of science it has then to

make its difficult and delicate social adjustments.

Shall we then cease to improve? Of course not. Simply be aware of all the facts, be prepared for and not surprised by these social adjustments and accept gracefully the circumstance that the law is a partner of medicine just as it is a partner of all the other activities of man as a social unit.

\* \* \*

Apropos of the foregoing, consider the rather unusual angle of this x-ray case. A man was struck by a street car in a certain city, says the court, and was taken to the city hospital for immediate aid. The police surgeon made a hurried preliminary examination and sent the patient to another hospital, advising the use of the x-ray in ascertaining the exact injuries. At the same time, the police surgeon telephoned to an x-ray practitioner who proceeded to the hospital and made an x-ray examination of the left hip. The police surgeon continued to be the physician in charge of the case and to him the x-ray practitioner reported that the plates revealed no fracture in the hip. The surgeon thereupon advised the patient that he might go home, advising that he make applications of hot water to the hip to alleviate the pain.

The patient returned to his home and pursued the suggested treatment. He continued, however, to have much pain and some days later he returned to the surgeon for further attention. Again he was advised to simply continue the hot applications, that there was no fracture. The condition continuing still longer, the surgeon again instructed the same x-ray practitioner to make a further examination. This time pictures of both the right and left hips were taken and these disclosed the fact that the left hip had actually suffered an impacted fracture, which had now healed in an unnatural position.

The patient sued the police surgeon and the x-ray practitioner, alleging negligence on the part of both.

Expert evidence on the trial established the fact that an impacted fracture of this kind does not invariably show on an x-ray examination made very soon after the injury is received, a fact which it was said is very well known to the profession. Hence the court argued that the defendant, x-ray practitioner, had not shown actionable carelessness. He had been invited to make an examination of the injury and this he had done with due skill and care and within the limits of his medium. As to the police surgeon, the court seemed of opinion that he might have been careless in relying entirely upon the first x-ray report, which, according to certain of the expert testimony introduced, he should have supplemented with his own physical examination.

In this case the court makes a profoundly important ruling as to the status of expert evidence in a trial of this sort. The lower, or trial court instructed the jury if it chose it might disregard entirely the expert evidence in the case and still bring in a verdict against the defendant physicians. The appellate court said this was a grave error; that the proper instruction to the jury is that, if it disbelieves the expert evidence presented on behalf of the plaintiff, it must be considered a failure of proof on the plaintiff's part and the verdict must be for the defendants. The court points out very properly that without expert evidence in litigation of this character, the jury, as laymen, have no standard of judging the merits of the controversy.

How beautiful a thing is reason!

\* \* \*

He had his home office in Minneapolis, says the Colorado court, but he traveled through the middle western states spreading healing as he went, or rather claiming to do so. It seems he would advertise ahead that he was coming to a certain town, would be at a certain hotel

there to meet patients at a certain hour, sometimes mentioning his success on a previous visit in healing a local resident. He appears to have done this in a certain given instance, wherein he named a local lady and said he had healed her of ulcers of the stomach. The lady said he had never treated her for or healed her of anything. The board got after him. He cried that it was a mistake; he had treated her for something or other but admittedly not for ulcers of the stomach. License in Colorado revoked. The Court said: "If such conduct be not immoral, dishonorable and unprofessional we do not know what conduct of a licensed physician would come within those words."

\* \* \*

In California a party practicing as a chiropractor without a license, as required by section 15 of the chiropractic act, is subject to prosecution for practicing medicine without a license under the regular medical act, section 18 of the chiropractic act providing that it shall not be construed as a repeal of the medical act except as to persons licensed under it.

\* \* \*

The so-called drugless healers act of 1925, state of Washington, has been declared by the federal courts to be not in violation of the fourteenth amendment of the constitution of the United States, which prohibits the taking of one's property without due process of law. "It is not unreasonable" says that court "to exact a high school education or its equivalent as a proper standard of general education; neither is it an arbitrary exercise of the legislative power to require a residence course of three sessions, consisting of thirty-six weeks each, in a school of approved standing."

#### Krysolan and the Tuberculosis Problem

The development of the gold treatment for tuberculosis is given by A. Feldt. The view is taken that gold, like other metals used for therapeutics, acts as a catalyzer in the body, and as such, by altering the primary body colloids, occasions the formation of inflammatory irritants from substances originating from body proteins. The enzyme-like property of the gold counteracts the irritating substances (tuberculin is also classed here), which act upon the tuberculous tissue and accelerate the autolytic processes in the disease lesion, resulting in a flooding of the organism with toxic cellular disintegration products.

Gold and tuberculin, therefore, occasion closely related processes; the catalytic action is also expressed by the fact that even small doses occasion characteristic focal and general reactions in the tuberculous body. Besides these other substances (Iodin, antipyretics, salvarsan, mercury, protein compounds, etc.) can exert an irritating action upon the tuberculous tissues, but gold and especially Krysolan (or triphal) have the property, in distinction to tuberculin, of limiting the inflammation around the tuberculous focus. This demarcating action depends upon the fact that the latter can decompose the liberated toxic cellular decomposition products, and also that it has a development-inhibiting action upon the mobilized tubercle bacilli which have reached the blood and lymph channels. It is not believed that a true tuberculosis parasitotrope of chemical nature will be found because of the difficulty in penetrating the fibrous capsule. The organic gold agent's action is analogous to the "nosotrop" action of the heavy metals upon syphilitic granulation tissues, in which case there is a hastening of the autolytic processes without a direct influence upon the spirochete.

In distinction to this the "etiotrop" salvarsan rapidly causes the disappearance of the causative organism, which action is only possible because the syphilitic granulation tissue, in distinction to the tuberculous tissues, is well vascularized.—(*Beitr. Klin. Tuberkulose* 57, 269-92).

#### Diabetes

The use of raw pancreas of sheep, or of pig, perfectly fresh, finely minced and eaten with lettuce, in quantities of a tablespoonful daily, or every other day, seems to produce the same effect as the administration of insulin. The patient must, of course, be kept at rest and carefully dieted.—(*Dr. Thomas J. Hollins, in Brit. Med. Jour.*)

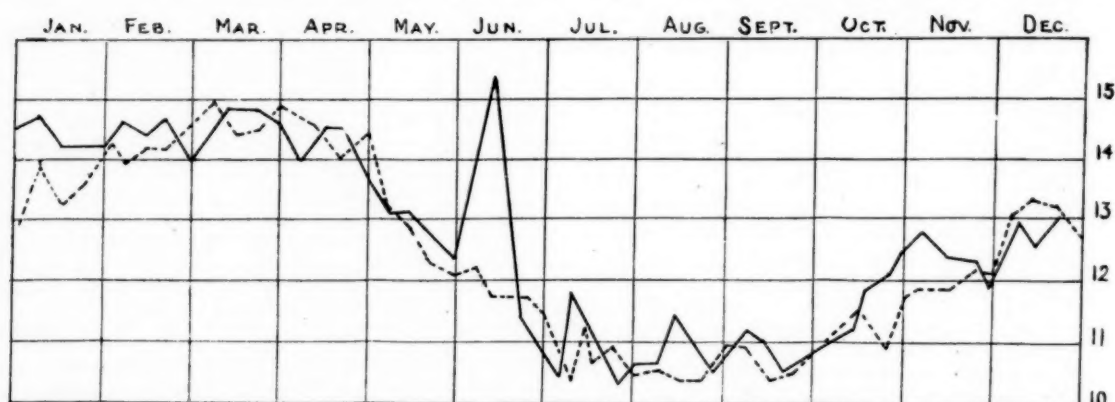
## The Death Toll of 1924

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For the past ten years the death toll in the registration area of the United States has averaged about 1,100,000 yearly. There has been a slight increase in the total number of deaths year by year, but the rate per thousand of population has declined from 17.2 in 1900 to 11.9 in 1924. In 1924 the total number of deaths in the registration area, which includes 82 per cent of the population, was 1,173,000. The greatest number occurred in 1918, when the influenza and pneumonia combined carried off about 475,000 victims in the continental United States. The total deaths for that year within the registration area, was 1,471,367, although the total number of deaths in 1924 exceeded those of

of many diseases fell below the normal for the same reason. The general lowering of the death rate is due to the conquest of communicable diseases and to the salvaging of children. The gain in these fields has not yet reached the limit but it is now close to the limit; and, unless the progress of old-age ailments is arrested, the general death rate will not be lowered materially in years to come. Pure milk and uncontaminated food and water, together with the education of the young mother, has reduced the death rate one-third.

The varying death rates of cities has been noted in a previous issue of MEDICAL TIMES. Thus, the rates at St. Louis is 13.5; at Memphis it is 20; in New Or-



The figures at the margin denote the Death Rate per thousand of population in 64 cities having an aggregate population of 27,000,000. The heavy line shows the rate for 1925, the broken line for 1924.

1923, the rate of the latter year, 12.3, was materially higher. The following named causes account for about 68 per cent of the total number of deaths:

	1924	1923
Heart diseases .....	176,671	170,033
Pneumonia .....	97,403	105,680
Cerebral hemorrhage .....	91,941	87,707
Cancer .....	91,138	86,754
Tuberculosis .....	89,724	90,732
Nephritis .....	88,863	87,378
Congenital causes .....	77,653	75,636
Violent causes .....	96,226	93,246

The total number of deaths from the foregoing causes is approximately the population of Los Angeles. Pneumonia, tuberculosis, and nephritis show lower rates in 1924 than in 1923. Cutting off the last three figures gives roughly the rate per hundred thousand of population. The greatest increases are those from heart diseases, cancer, cerebral hemorrhage, and violence. Of the last named 15,533 were due to motor-car slaughter, 12,955 to suicide, and 8,420 to homicide. The homicides in number are about forty times those of Great Britain. The motor-car fatalities in four years exceed the loss of American soldiers in action during the late war by about 10,000.

The death rates from heart diseases and cancer have advanced with but very few interruptions during the past quarter of a century. In 1918 the influenza plague snatched many who without doubt would have succumbed to old-age ailments. In that year the death rates

leans it is 18.5. With the installation of one of the best systems of water purification in the world the death rate of St. Louis dropped to its present figures. There are other striking examples. At Albany the rate for 1924 was 15.4; at Yonkers it was 10.0; and at New York City, 11.8. The same explanation will apply to Trenton and Newark, with rates respectively 15.2 and 11.1. Owing to increasing congestion of population we have reached a stage of stream contamination where the neglect of water purification is a moral crime.

The four cold months in the year account for about 54 per cent of the year's mortality. Dr. Ellsworth Huntington declares that the high winter rate is due to climatic causes. He certainly is right. It is a case, however, of indoor and not of out-of-door climate.

When the winter heating system is in operation, the air of living rooms is dry, dusty, and stagnant. The humidity which should range between 55 per cent and 65 per cent of saturation is rarely more than 35 per cent. Estimating the dust particles in the air is a difficulty. Under the most favorable conditions the best method fails when the number of particles exceeds 20,000 per cubic inch. A beam of violet light projected into a darkened living room with temperature at 72 deg. and humidity at 28 per cent indicates that the dust content is at least three times as great. To express the number of dust particles in figures, however, is but little better than a guess. Dry, dusty and overheated stagnant air are the conditions which, out of doors, Dame Nature makes the most deadly.



In the accompanying diagram the plotting for the month of June shows the effects of a week of such weather. The broken line shows the death rate in 1924 of sixty-four cities having an aggregate population of 27,000,000. The death rate for the first ten days of June was about 12.0, or closely to the normal. The week of indoor winter conditions in the following year raised the rate to 15.4.

The moral of the foregoing paragraphs should be obvious; but apparently it is not. Our boasted education system, the most expensive in the world, has not included in its curriculum the science of taking care of

the human body. The doctor most certainly has wrought miracles in the salvaging of infant lives. Of the total number of deaths for the year noted about 14,000 can be charged against the only unavoidable cause. The remaining number is chargeable to ignorance, carelessness, and indiscretion. The waste of human life is the crime of modern civilization. In the past half century wonderful opportunities have been opened to humanity by discovery. The doctor has seized upon the opportunities; but the schoolmaster seems to have flunked. We have not yet acquired the desire to postpone our funerals. Meteorological Laboratory.

## Suggested Innovations in the Treatment of Syphilitics

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Some features I have found of value in the treatment of the syphilitic patient, and which I think worthy of wider trial are appended.

*In primary syphilis:* On the basis of the histopathology of the chancre, and the evident difficulty of getting the anti-spirochetal remedy directly to the source of the dissemination of the spirochetes, I thought that the action of the iodides early in the course of clinical syphilis would be of aid. It has been my habit, then, for the past five years to inject patients with sodium iodide intravenously in addition to salvarsan in the primary phase of syphilis, if they presented chancres or the remains of chancre, as the induration.

Clinically, it has been shown that apparent reinfection from the focus of such induration has been possible. Experimentally, such remains of chancre have been found fruitful sources of spirochetes. That this innovation of treatment, for I am satisfied that the iodides were formerly reserved for the tertiary phase of syphilis, has been strengthened by the work of Dr. Louise Pearce of the Rockefeller Institute goes without saying. Pearce found a helpful reaction from iodides in experimental primary rabbit syphilis. In the *Archives of Dermatology* for July, 1925 (Vol. 12, Page 1) Pearce concludes: "The regular administration at bi-weekly and weekly intervals of small doses of potassium iodid (0.006 and 0.003 Gm. per kilogram) to rabbits infected with *Spirocheta pallida* has resulted in modifying the severity and in shortening the duration of experimental disease as measured both by the character of the primary orchitis and of the general manifestations. The disease which developed in the rabbits treated with iodid resembles in many ways that of normal rabbits of relatively high resistance in which few or no secondary lesions arise.

"It is suggested that the therapeutic action of potassium iodid in experimental syphilis of rabbits is associated with a stimulation or a reinforcement of the host's mechanism of reaction or defense."

I believe that this work of Pearce is of great significance.

It has been my practice, also, to destroy the chancre by actual cautery, or more recently, by the use of diathermy. The wound is kept covered with antiseptic ointment. If there is any suggestion that the lesion of primary syphilis is concomitantly infected with the Ducey organisms of chancroid, the destruction is very complete, and in addition to the arsphenamin therapy, I introduce intravenously, potassium antimony tartrate.

Reference to the *Journal of Urology* for April, 1925 (Vol. 13, page 489) will disclose my published results of the use of tartar emetic solution intravenously in chancre.

*In secondary syphilis:* My aim in the treatment of the patient with secondary-phase syphilis is to give the anti-syphilitic remedy as intensively as possible. Intravenous injections of properly selected doses of salvarsan are given as often as every second day or even every day. I am in the habit of giving injections of sodium thiosulphate alternately with the salvarsans. In this manner, I avoid the danger of arsenic retention or arsenical dermatitis. If the intravenous route cannot be used for sodium thiosulphate the salt may be given orally. I prescribe 15 grains in a powder to be taken three times a day. The efficacy of sodium thiosulphate in arsenic dermatitis has been questioned, but I have found it excellent.

Since my work with mercury salicylate in syphilis, (*Arch. of Derm.*, Aug. 1920, Vol. 2, Page 193), I have not used any of the insoluble mercurials in the injection treatment of syphilis. I believe that syphilis can be eradicated without mercury. If the referring physician insists on mercury I use a soluble mercury salt.

Iodides should be given throughout the secondary phase of syphilis. I am partial to sodium iodid intravenously. Potassium iodid by mouth has been held to be equally efficacious. I have had the sodium iodid salt, C.P., weighed and placed in ampoules of 30 grains, and then sealed. The salt is dissolved after breaking the ampoule in about 15 cc. of sterile, distilled water. The iodid acts in early syphilis by preventing the accumulations of minute gummous structures about blood vessels, thus permitting the anti-spirochetal remedy to reach them. It is futile to fill the vascular spaces with circulating salvarsan derivative (salvarsan plus blood) if it cannot gain entrance where needed. If the vasa vasorum, for example, are sealed, the action of therapy passes by what will ultimately be an aneurysm.

*In late syphilis:* Late syphilis may be either latent or active. Here we use the iodid to prepare the way for the other remedies. We give iodid alternately with salvarsan intravenously, we give more iodid by mouth. I particularly try to keep the patient alive and happy. I do not force the arsenicals. I believe that it is better to have a living patient with a positive Wassermann than a dead one because of having tried to get the Wassermann negative. If the active late syphilitic manifestation is one of the mucosa of the mouth, or elsewhere, I am very

careful about salvarsan injections. I try not to lose sight of the fact that the patient has one trouble, namely, syphilis. I try not to add to his troubles by introducing arsenic and mercury and thus tax the patient too severely.

In former publications, I have stressed the importance of the treatment of the syphilitic patient aside from his syphilis. This distinction should never be forgotten. If we owe any grudge to the discovery of the Wassermann

reaction and to the results of Ehrlich's genius, it is that we have had the tendency to resort to formulas in the treatment of an important disease. One hears and reads too much of "six shots" of this or of that, and then six weeks rest and a test. The physician treating a syphilitic should remember the host!

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## The Surgical Indications of Inflammatory Diseases of the Gall-Bladder

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The morbidity and mortality of the surgical diseases of the gall-bladder and biliary ducts can be lessened by the timely and judicious employment of appropriate operative measures. Guided by our clinical experience and a study of the English, French and German literature of the subject published during the last five years, it is my wish to briefly discuss the indications for and the usefulness of operative treatment of inflammations of this organ. The rapid, permanent and complete cure of inflammatory diseases of the gall-bladder and biliary passages can only be secured by the aid of surgery. Medical treatment is palliative and valuable in the pre- and post-operative management of these affections. To furnish the occasional operator with safe indications for the performance of either of these two operations, cholecystostomy and cholecystectomy, is the sole object of this paper. Formerly, there was a tendency to extreme conservatism; surgeons were hesitant and only badly diseased gall-bladders were removed. Nowadays the reverse obtains and, of the two operations, cholecystectomy is the more popular, the more frequently performed and is said to be more often followed by complete and permanent recovery and to do, when skilfully performed, the most good to the greatest number.

In inflammations of the gall-bladder, calculus or non-calculus, complicated or uncomplicated by disease of the neighboring organs, cholecystostomy and cholecystectomy have each their respective sphere of usefulness. No surgeon of experience employs either exclusively. Irrespective of the type of operation performed, a certain percentage of cases present postoperative symptoms. Some clinicians teach that a diseased gall-bladder is a potential menace and should not be left in the abdominal cavity any more than a diseased appendix; others maintain that the gall-bladder should be left whenever possible, claiming that its ablation is a mutilation and that it is a safe and sure guide to the common duct should a subsequent operation on the bile tracts be necessary. After removal of the gall-bladder, exploration of the bile-ducts is attended with great difficulties.

Drainage of the gall-bladder is a safer and easier procedure in the hands of the average surgeon and in the average case. It is easy of execution, requires little operative skill and, in desperate cases, is an emergency operation giving immediate relief and is frequently life-saving. Many patients are so improved by an emergency or preliminary cholecystostomy that they, when their condition is stabilized, willingly and safely submit to further restorative operating or to the removal of their diseased gall-bladder. In fulminating cases, carry by

drainage the acute gall-bladder to the subacute or chronic stage and remove it later if it becomes necessary.

Cholecystectomy removes completely from the body a focus of infection and is usually attended by an earlier, more complete and permanent disappearance of symptoms. The advocates of cholecystectomy say that its end-results are as superior to cholecystostomy as those of nephrectomy for pus-riddled kidneys are better than those of nephrotomy. They further maintain that cholecystostomy is an incomplete operation because the retained gall-bladder is a potential source of future trouble and is an important factor in stone production and in the persistence and recurrence of symptoms. The secreting glands and crypts in the lining membrane of the gall-bladder may be retention pockets of sediment, pus and bacteria.

An intelligent and profitable discussion of the subject calls for a knowledge of the important accepted and established facts known concerning the anatomy and physiology of the gall-bladder and a brief review of the etiology and pathology of its inflammatory diseases.

The gall-bladder is not a useless, not a vestigial organ. Its routine removal is to be condemned. When diseased, if its restoration to approximately normal function and normal structure be probable, it should not be removed. If the gall-bladder is irreparably diseased, its removal is necessary. Formation anew of the gall-bladder never takes place.

The relations (anatomical and physiological) existing between the gall-bladder and bile-ducts and the contiguous organs (first part of the duodenum, pyloric end of the stomach, liver, head of the pancreas, etc.) are intimate and important. Functional impairment and anatomical deviations of any or of all the constituent parts of the biliary system, determine more or less biliary insufficiency and digestive disturbances. These lower vitality, entail invalidism and predispose to, when they do not result from, calculous, inflammatory, neoplastic and other degenerative processes in the gall-bladder and related organs.

Anatomical and physiological integrity of the gall-bladder and bile-ducts (excretory and secretory parts of the hepatic system) is essential to the perfect physical state of the individual. Normal hepatic function presupposes, among other conditions, adequacy of the lumen of the cystic, hepatic and common ducts and normalcy of the mucous membrane and musculature of the gall-bladder. The organ must be free from adhesions and its motility and contractility unimpaired.

About the gall-bladder, extending beneath the serosa and especially between the liver and gall-bladder, there is

a layer of cellular tissue in which are situated lymphatic capillaries communicating with the lymphatics of the liver. In severe infections of the gall-bladder, this cellular tissue is infiltrated and oedematous. It is continuous with that covering the pancreas.

Connective tissue holds the gall-bladder in intimate contact with the under surface of the right lobe of the liver. The organ is further maintained in position by peritoneum covering fundus and under and lateral surfaces and continuous with the hepatic serosa.

The gall-bladder and bile-ducts are abundantly supplied with lymphatic vessels by which infection may be conveyed to and from the liver, to the head of the pancreas and to other neighboring or remote organs. Many of these lymphatics pass through a lymphatic gland situated at or near the neck of the gall-bladder. Some of the efferent lymphatic vessels empty in glands near the head of the pancreas, others in glands near the hepatic artery.

The cystic duct at its junction with the gall-bladder forms a sharp letter S-kink. In certain pathological states, so efficient is the valve-like obstruction formed by this kind that either the gall-bladder or the common duct can be overdistended to bursting without affecting the pressure in the other. The mucous membrane of the cystic duct is continuous with that of the gall-bladder; it differs from it by being thrown into numerous valve-like folds (leaflets), the valves of Heister.

Anomalies in the caliber, number, length, mode of union, distribution and anatomical relations of the regional blood-vessels and bile-ducts are not uncommon. To disregard them is to invite operative accidents.

As to the normal functional value and functions of this organ, there is a great difference of opinion. The bile undergoes in the gall-bladder modifications, physical and chemical, enabling it to better participate in the digestive processes. Normally the gall-bladder contains about 30 c.c. of bile; by virtue of the elasticity of its walls, it is capable of enlarging to a much greater capacity. It is an overflow chamber, a tension bulb, a safety-valve, as it were, protecting the liver cells from injury incident to excessive back pressure. Some clinicians claim that the most important function of this organ is to relieve pressure within the biliary ductal system.

The flow of bile into the duodenum is regulated by many factors: The rhythmic contractions of the gall-bladder, the respiratory movements, the milking action of the duodenal peristaltic waves, the passage of the acid chyme through the pyloric opening and active digestion. The gall-bladder and ducts are squeezed between the liver and the intestines by the contractions of the diaphragm and of the abdominal respiratory muscles.

Under normal fasting conditions, the sphincter of Oddi, when normal in tone, controls the bile pressure in the ducts. With the passage of food from the stomach into the duodenum, the sphincter at the outlet of the common bile-duct relaxes, the gall-bladder contracts and the bile escapes into the intestine. As the sphincter of Oddi contracts, the gall-bladder relaxes and vice-versa (theory of contrary innervation).

The intra-duct bile pressure is dependent on the force of bile secretion and the resistance offered by the sphincter muscles at the ampulla of Vater. The liver secretes bile at about 300 mm. pressure of water and the maximal contracting force of the gall-bladder, when under stimulation by electricity, is only 313 mm. Thus, it is seen that the maximal force of contraction exerted by the gall-bladder on its contents does not exceed materially the maximal normal intra-hepatic bile pressure.

The gall-bladder, owing to the poor development of its musculature, has low contractile or expulsive power; it cannot fully empty itself. Its smooth musculature has

just enough tonus to prevent overdistension of the organ and cannot and does not exert any particular pulsative pressure upon its contents. Hypertrophy of the gall-bladder wall is not caused by and does not follow obstruction (continuous or intermittent, partial or complete) of the cystic or common duct. This is in sharp contrast to what occurs under analogous conditions in other smooth-muscle hollow viscera.

During fasting the gall-bladder fills with bile, adds mucus to it, concentrates it and otherwise modifies it. Gall-bladder bile is a thick, syrupy, viscid fluid having about eight times the consistency of common-duct bile. This concentration of bile is brought about largely through water abstraction by the lymphatic vessels.

The gall-bladder secretes mucus. "The mucus it produces reduces the chances of pancreatic and other complications," Mayo. The bile from the hepatic duct being free of mucus can cause a more virulent pancreatitis than gall-bladder bile which under normal conditions always contains mucus.

Permanent dilatation of the bile-ducts and larger biliary radicles follows, as a rule, the permanent loss of gall-bladder function through atrophy, disease, such as long-continued chronic cholecystitis, distension of the gall-bladder with calculi, complete occlusion of cystic duct, etc., or removal of the gall-bladder. Animal experimentation, operative, post-operative and postmortem findings have repeatedly confirmed the preceding statement. This dilatation is expressive of nature's effort to compensate for the loss of the gall-bladder. The stump of the cystic duct participates in this distension. That this permanent dilatation of the biliary ducts is of permanent harm to the individual has not been demonstrated. As a matter of fact, it presents no characteristic symptom-complex.

Though in some of the lower animals the gall-bladder is absent, though in man it is not a vital organ as evidenced by the many patients in whom its removal has not been followed by any serious disturbances, we are firmly convinced that it is an important organ and a factor in the well-being of the individual. The body, by its power of adaptation, compensates for the loss of the gall-bladder. If the bile-ducts are patent, if the flow of bile into the duodenum is free and unimpeded, cholecystectomy does not permanently impair health, does not interfere with nutrition, does not shorten life, but it has been noticed that in 60% to 70% of cases in whom the gall-bladder has been removed, there is either a diminution or a suppression of the gastric secretion of HCl. In many of these cases, the HCl deficiency antedates the operation. I have patients whom I cholecystectomized over ten years ago and who have since been in normal health.

After removal of the gall-bladder, the biliary pressure equalizes or overcomes the resistance of the sphincter of Oddi. Bile secretion is more or less continuous and after a cholecystectomy its excretion into the duodenum is at first also more or less continuous and pure bile may appear in the stools (this is abnormal).

Next to the appendix vermiformis, the gall-bladder is the most frequent seat of abdominal morbidity. The intimate anatomical contacts and the close interrelationships (nervous, vascular, lymphatic) existing between the gall-bladder and biliary ducts and the contiguous abdominal organs determine in a large measure the incidence, progress and distribution of disease in this region, be the disease calculous, obstructive, inflammatory or neoplastic in nature.

Inflammatory processes (especially those of low virulence) of the gall-bladder may initiate and in fact are



frequently associated with gall-stone formation. Cholelithiasis is most always preceded by or associated with an infective inflammation of the gall-bladder. Bacteria (staphylococci, streptococci, typhoid, paratyphoid, colon bacilli, etc.) have been found in biliary calculi, have been found etiologically associated with cholecystitis. An infected gall-bladder is capable of receiving infection from and distributing infection to contiguous and remote organs. Chronic septic infection from the gall-bladder may cause infective arthritis, fibrositis (muscular rheumatism) to say nothing of the more remote but nevertheless important noxious effects upon the heart and blood-vessels. The gall-bladder may be reinfected; it may reinfect itself. Thus is explained, in many cases, the recurrence and persistence of symptoms.

Infective microorganisms migrate to the gall-bladder through the common and cystic ducts, through lymphatic vessels or through the blood stream (hepatic artery, cystic artery, portal system). Inflammation may spread to the gall-bladder by continuity of tissue: enteritis, duodenitis, choledochitis, cholecystitis; may spread to it by contiguity of tissue. Microbes gathered from the intestines by the portal system filter through the liver and may be carried in the bile to the gall-bladder via the hepatic and cystic ducts. Infection gaining entrance from the intestines into the portal circulation may reach the gall-bladder by means of the numerous lymphatic vessels that pass from the liver to the gall-bladder; may ascend from the duodenum through lymphatics in the walls of the common duct. Thus is explained the frequent coexistence of cholecystitis with appendicitis, with typhoid fever, with colitis and with suppurative hemorrhoids.

Enlargement of the lymph nodes along the common duct is good evidence of gall-bladder infection. "A seriously infected gall-bladder can not exist without evidence of infection in the glands which drain it" (W. J. Mayo).

The frequent coexistence and association of cholecystitis and choledochitis with an hepatitis most marked in the immediate neighborhood of the gall-bladder, with acute and chronic pancreatitis is most always due to infection propagated by the lymphatic vessels. Many cases of pancreatitis follow cholelithiasis and cholecystitis. Cholecystitis may also be due to a direct extension of inflammation by way of the lymphatics from a liver already inflamed (Ewerts Graham). The not uncommon simultaneous occurrence of duodenal ulcers and cholecystitis furnishes further proof of lymphatic-borne infection. Some clinicians claim that 10 per cent of duodenal ulcers are accompanied by cholecystitis. Pyæmia excepted, every infection is a lymphangitis.

Bile stasis is a potential predisposing factor to gall-bladder disease and to gall-stone formation. Stagnant, stringy, viscid, tarry bile is evidence of pathology. Stasis is a factor in appendicitis, in inflammations of the urinary bladder and apparently plays an analogous etiological rôle in inflammations of the gall-bladder. Stasis is more common in women because of pregnancy, tight clothing, constipation, sedentary life, lack of fresh air and exercise. Impairment of the elasticity, contractility or motility of the gall-bladder, partial or complete occlusion or obstruction of the bile-ducts impede the free flow of bile, predispose to bile-stagnation, to bile-concentration, to bile disintegration, increase the bile pressure and invite bacterial infection. Even those who attribute gall-stone formation to hypercholesterinæmia do not deny the etiological importance of stasis and infection.

Acute, subacute, chronic or recurrent inflammatory

processes of the gall-bladder and bile-ducts are either local or diffuse. Gall-bladder disease is often merely part of an infection involving other organs in close proximity. Here as elsewhere, infective inflammation (primary and secondary) spreads by continuity or contiguity of tissue, is transmitted through vascular or lymphatic channels and, gall-stone formation being excepted, resembles in inception, evolution, termination and sequelæ infective inflammations occurring in other hollow viscera. The various pictures presented correspond to the different phases, to the different stages of inflammation. Each succeeding attack of cholecystitis causes additional degenerative changes in the already structurally altered gall-bladder. Grossly pathological gall-bladders are usually found in later life. Autopsy records, operative findings and clinical observations furnish abundant evidence of the very slow progression of most lesions of the biliary tract.

Gall-stones frequently accompany inflammatory (infective) processes of the gall-bladder and bile-ducts, are usually secondary to them, act like infected foreign bodies and play an important etiological rôle in the lodgment, persistence and transference of infection. "Gall-stones are found in approximately 70 per cent of all cases of gall-bladder disease" (Mayo). Though a by-product, they often initiate and more frequently keep up, complicate and aggravate gall-bladder disease. By their mechanical presence, they can cause tissue necrosis and perforation. Gall-stones vary in origin, shape, size, number, chemical composition and location. They may lodge and remain latent in the gall-bladder, may migrate down the cysticus and the common duct and then escape into the intestinal canal or may become impacted in a diverticulum, in the neck of the gall-bladder or in any part of either the cystic or common duct. Impaction occurring after or unrelieved by a cholecystostomy produces a permanent mucus fistula. The persistence of an external mucus fistula may also be due to a stenosed or strictured cystic duct. A strictured or injured common duct may cause the persistence of an external biliary fistula. Calculous occlusion of the common duct causes temporary or permanent obstructive jaundice of gradual or sudden onset, leading, in some cases, to biliary cirrhosis. Stones in the hepatic ducts and in the liver are of unusual occurrence. Calculi lodging in the bile-ducts may cause, after a time, at point of arrest, pressure ulceration, scarring, cicatricial contraction and stricture. If the calculus or calculi lodge or become impacted in the cystic duct, there may ensue an intermittent or continuous hydrops or mucocoele of the gall-bladder, or an acute or chronic empyema. In the absence of impacted calculi, hydrops fellæ and empyema are due to inflammatory sequelæ causing a complete stricture, compression, closure or occlusion of the cystic duct. Complete obstruction of the cystic duct results in distention of the gall-bladder by clear mucus without bile. The cystic duct may be obstructed by the direct mechanical pressure of an enlarged lymphatic gland.

Infections of the gall-bladder involve, simultaneously or successively, one, two or more of its coats. Usually they are mural, interstitial, deep-seated and when virulent or long-continued invariably produce permanent histological changes. The integrity of the mucous membrane, submucosa and muscularis may be seriously impaired. Pericholecystitis, more or less extensive, is frequent. Any inflammation of the gall-bladder may be complicated by a localized or diffuse peritonitis. In chronic cholecystitis, the gall-bladder is thickened, sclerosed, shrunken and embedded in adhesions; in rare cases, it is the seat of calcareous degeneration. Long-

standing calculous occlusion of the common duct leads to a contracted gall-bladder in about 85 per cent of the cases (Courvoisier's Law).

Inflammation proceeding to the stage of suppuration results either in an empyema, acute or chronic, a phlegmonous inflammation of the gall-bladder or a pericholecystic abscess. If an infected gall-bladder ruptures into the hepatic substance, a liver abscess results. Ulcerative inflammation, like gangrenous inflammation, is local or general and involves the gall-bladder wall in part or in its entirety. If ulceration or gangrene extend through the whole thickness of the gall-bladder wall, perforation, acute or chronic, occurs either into the free peritoneal cavity or, protective adhesions being present, into a neighboring hollow viscus. In the former case a diffuse peritonitis results; in the latter, an internal biliary fistula ensues. "Perforation of the gall-bladder into the transverse colon or duodenum is not infrequent" (W. J. Mayo).

Pericholecystic adhesions are usually due to gall-bladder disease. They may bind the gall-bladder to the omentum, pylorus, duodenum, transverse colon, anterior abdominal wall, etc.; they may kink, twist, obstruct or compress the pylorus, the cystic or the common duct and when they impede the evacuation of the stomach and the easy filling and emptying of the gall-bladder, there results pain, digestive and other disturbances.

Inflammations of the bile-ducts that heal by scar formation lead to stenoses, to strictures. Cicatricial changes in the gall-bladder produce distention, deformity, sacculation, hour-glass contraction, fibrosis or atrophy of the organ.

The physiologic and pathologic relationships existing between the stomach, duodenum, head of pancreas, liver and the gall-bladder and bile-ducts influence, obscure the symptomatology of disease of this region and contribute to the uncertainties of early diagnosis. The clinician, despite the aid of a carefully elicited history and a judicious analysis of symptoms, is often unable to determine accurately previous to a laparotomy the extent and duration of gall-bladder involvement. As the clinical manifestations frequently do not correspond to the morbid anatomy present and as many of the symptoms from which these patients suffer are reflex in origin, an exact diagnosis is often impossible previous to exposure of the seat of disease to inspection and palpation. Gall-bladder disease does not present a uniform clinical picture. The symptoms or signs are those of infection, inflammation, obstruction (calculous or non-calculous) and dysfunction such as digestive disturbances, biliary dyspepsia, nausea, vomiting, belching, etc. "Fair, fat and forty with belching" (Deaver).

Adhesions resulting from acute or chronic pericholecystitis, pre- or post-operative in origin, may cause great distress, may impair the functional integrity and motility of the gall-bladder and surrounding organs; if omental, the pull on the greater curvature may be such as to render gastric peristalsis painful. Infective inflammation causes continuous, intermittent or paroxysmal pain which may be localized (biliary ache, dull pain in right hypochondrium) or radiating (biliary colic). Chills, fever, sweats, prostration, localized tenderness and rigidity over the gall-bladder region are always present in the acute stage. The different stages of inflammation: Catarrhal, suppurative, ulcerative, gangrenous, fibrotic—are accompanied by their respective symptoms. Obstruction to the biliary flow causes jaundice, cholemia with its accompanying disturbances, pruritus, etc. Some of the symptoms of chronic gall-bladder disease are due to adhesions; many result from coincident or associated disease

of the duodenum, liver, pancreas, etc.; others are caused by the diseased gall-bladder.

To arrive at well-founded conclusions, it is important:

(a) To take a careful history and to make a complete physical examination. Keep in mind that gall-stones and gall-stone colic are not essential to the clinical picture of gall-bladder disease. Gall-stone formation is merely a frequent incident of gall-bladder infection. (b) To consider the roentgenological evidence. An affirmative roentgenological diagnosis is highly reliable. X-rays are able to visualize about 50 per cent of cases of cholelithiasis. Fluoroscopic and x-ray observation of the stomach and intestines prove serviceable by revealing the existence of adhesions and other unsuspected abnormalities. (c) To interpret intelligently and skilfully the physical signs elicited and the evidence furnished by cholecystography. The oral and intravenous method of dye-injection are both valuable. (d) To analyze the laboratory findings: Urine, blood, stomach contents, etc. They may furnish corroborative data. Non-surgical drainage of the bile tracts is a diagnostic procedure which has not yet come into general use. Its value is disputed by some.

Cholecystostomy and cholecystectomy have each their advocates and respective indications. The operator should adopt the type of operation best suited to the case at hand. He must individualize. The indications are to shorten the patient's convalescence, to hasten his return to health and to correct the existing pathology either by drainage or by more or less complete removal of foci of infection. Cases associated with much gross pathology tax the ingenuity of the surgeon. The degree of recovery secured is in direct proportion to the extent of pathology corrected.

The success or failure of an operation depends upon the degree of relief obtained, the results secured and the absence of unpleasant postoperative sequelae. It is only after the abdomen has been opened and the anatomical changes present have been ascertained that the surgeon, best judge of his patient's resistance, can intelligently select the appropriate operative procedure.

Ideal surgery calls for the conservation of organs. There should be no needless mutilation. We disapprove of the prophylactic removal of the gall-bladder—the removal of an organ for conditions that may not occur. Cholecystectomy involving the sacrifice of an important organ is usually an operation not of election but of necessity. The small mimic gall-bladder formed at times after removal of the real viscus, is not a regenerated gall-bladder but merely a distension of the stump of the former gall-bladder. It cannot perform the function of the parent organ. We believe that slight degrees of cholecystitis can resolve and the parts be restored to normal.

Surgical treatment should be instituted at the onset or in the early stages of gall-bladder disease, before the advent of such preventable complications as common duct obstruction (calculous or non-calculous), rupture of the gall-bladder into the free peritoneal cavity or into an adjacent viscus, various forms of pancreatitis, etc., before the pathology is so far advanced that restoration of normal function is doubtful. During the early period of disease, the operative difficulties are minimal, the mortality is practically negligible and improvement and cure easier of attainment. In the young, the percentage of recoveries is high; the operative mortality, very low.

When disease of the biliary tract is complicated by surgical disease of other abdominal or pelvic viscera, should the patient's condition not warrant a prolonged operation, the surgeon will do all that is consistent with



the patient's safety and defer further operative work to a more propitious time.

In diseases of the gall-bladder and bile-ducts, cholecystostomy is the operation of election:

1. In the aged, the feeble, the obese and in all patients whose general condition does not permit of more than the least amount of operating; in the presence of advanced cardio-vascular, advanced cardio-renal, advanced hepatic disease; in all cases in which a prolonged operation or an extensive dissection might be productive of severe shock or might cause death; in all critical cases, as an emergency operation, when great debility or other conditions such as deep jaundice due to stone in the common duct, etc., necessitates haste and make cholecystectomy too dangerous or too prolonged an operation at that time. It is a good surgical principle to not subject patients to more than the minimal amount of trauma consistent with their general condition and the indications present. A very short incision immediately over the gall-bladder and the insertion into it of a drainage tube or gauze constitute almost a minor operation.

2. In cases associated with pregnancy.

3. In cases associated with pancreatic disease.

4. In all other patients in whom the existence of complications or disease of proximal organs make cholecystectomy too hazardous, too risky.

5. In deep jaundice, due to calculous or non-calculous occlusions of the common duct or to its compression by adhesions, by the head of the pancreas, etc. Decompression of the liver by drainage with the minimal interference is indicated in deep jaundice, owing to the decreased coagulability of the blood there is great danger of fatal post-hemorrhage. In these patients the question of hepatic function must be seriously considered.

6. If the gall-bladder be very intimately adherent to the surrounding organs. Adhesions may so firmly glue the gall-bladder to surrounding structures that its removal necessitates the dissection of inflamed tissues and leaves raw surfaces, potential portals of infection. Duodenal and other intestinal fistulae have resulted from the separation of dense adhesions binding the gall-bladder to the gut.

7. In cholelithiasis, for the removal of gall-stones from any or all of the following locations: Gall-bladder, cystic or common duct, provided that the gall-bladder presents a normal appearance or is only slightly diseased and the cystic duct neither ulcerated nor strictured. The chief cause of relapse in gall-stone disease is the leaving behind of undetected stones. In the absence of valid contraindications, all gallstones call for operative removal. Early removal of biliary sand and gallstones has been advised as a prophylactic measure against malignancy.

8. In the early stages of cholecystitis, calculus or non-calculus, when the gall-bladder is but slightly altered and cystic duct is patulous, removal of stones and drainage may be followed by return of function and restoration of organ to normal structure. There are mild degrees of cholecystitis that do not produce thickening of the gall-bladder wall.

9. In acute pancreatitis complicating gall-bladder disease. The association of gall-stones and pancreatitis is variously given as between 50 per cent and 65 per cent. Mayo reported that in 80 per cent of the operations on the pancreas, there are lesions induced or accompanied by gall-stones.

10. In all cases, traumatic or pathologic and in which there is imminent danger of postoperative stricture of the common duct, also in those in which a stricture being present, there is no hope of reestablishment of the patency and function of the common duct. In the pres-

ence of these conditions the necessity of anastomosing the gall-bladder to the gut may be immediate or may arise at some future time. After a cholecystectomy, no short-circuiting operation between the gall-bladder and the gut is feasible.

11. In the course of all laparotomies in which you have not encountered infection and the patient's conditions warrants it, examine the gall-bladder. Palpation may reveal the presence of gall-stones. As in these cases the calculi have not caused marked symptoms and the gall-bladder wall usually presents a normal histological structure, cholecystostomy suffices.

12. In certain cases of cholangitis accompanied by icterus and enlargement of the liver and pancreas.

13. In certain cases of malignancy with obstructive jaundice due to carcinoma of the common duct or of the head of the pancreas. In these cases, if radium treatment be thought desirable, the gall-bladder can be used as an avenue for its application.

14. In all cases where temporary drainage of the gall-bladder and bile-ducts is indicated: (a) presence of infected foci in the liver; (b) to secure the expulsion of stones overlooked at time of operation. Drainage permits spontaneous discharge of small intrahepatic concretions as they pass downward to the extra-hepatic ducts.

15. In all cases where the mechanical difficulties incident to a cholecystectomy are great and make the operation extra hazardous.

Convalescence after a successfully performed cholecystectomy is shorter, attended with less discomfort and less complicated than after cholecystostomy. The postoperative course is as uneventful as that of a salpingectomy for pyosalpinx. Following removal of the gall-bladder, recurrence of symptoms is uncommon and the percentage of cures is high; the danger of pericholecystic adhesions and mucous fistulae-formation is non-existent. One of the most valid objections to cholecystostomy is the frequency with which postoperative adhesions form after its performance. "In the Mayo Clinic, cholecystectomy is performed in more than 90 per cent of cases as against cholecystostomy in less than 10 per cent." (Mayo.)

The disadvantages of cholecystectomy are: (a) It is difficult of execution. (b) It is not of universal application. The gall-bladder should never be removed unless one is certain that the common duct is patent. (c) It is attended with the danger of shock, hemorrhage, injuries to the common duct, to the duodenum, etc. (d) It has a slightly higher operative mortality than cholecystostomy. (e) It removes a useful organ, the functions of which we do not definitely know.

Cholecystectomy is the indicated operation if the patient's general condition permits:

1. In all localized or diffuse ultra-acute inflammatory conditions: Ulcerative, gangrenous, phlegmonous or membranous cholecystitis. In all cases of cholecystitis in which the gall-bladder is so altered that judged by gross evidence, "it cannot come back."

2. In acute cholecystitis when the gall-bladder is very distended from blockage of the cystic duct.

3. In advanced chronic or repeated inflammations of the gall-bladder. When the organ is markedly thickened, contracted, atrophied, deformed, shrunken or adherent and when it is evident that it cannot be restored to its normal condition, when it is evident that it is irretrievably lost or that the disease is progressive in nature as in fibrous or calcareous degeneration. In these cases, the elasticity of the gall-bladder wall is impaired or lost and its glandular secreting apparatus partly or wholly destroyed.

(Continued on page 128)



# The Medical Times

A MONTHLY JOURNAL  
OF

Medicine, Surgery and the Collateral Sciences

ESTABLISHED IN 1872

EDITED BY

H. SHERIDAN BAKETEL, A.M., M.D., F.A.C.P.

ARTHUR C. JACOBSON, M.D.

Associate Editor

Contributions.—EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this publication.

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All communications should be addressed to and all checks made payable to the publishers.

## MEDICAL TIMES CO.

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H. SHERIDAN BAKETEL, Treasurer

GEORGE B. CREVELING, Secretary

95 Nassau Street . . . . . New York

NEW YORK, MAY, 1926

## Fees Feasible and Fees Infeasible

In this issue is published a searching analysis of the fee issue by Dr. Victor Cox Pedersen. Because of its insight and courage it will challenge attention widely. Its conclusions are so well reasoned that many will find them inescapable. It is an *honest* and able consideration of the subject of fees. The discussion of this subject is not infrequently attended by more or less stench, disguised by a certain hypocrisy. Dr. Pedersen's frankness does not leave the atmosphere any less fragrant. It seems to us that he has clarified the matter greatly, and that we should feel indebted to him for his forceful and lucid exposition.

## The Direct Treatment of Heart Failure

An isolated heart when supplied with oxygen will continue to beat spontaneously for a much longer time in Ringer's solution, which closely resembles the blood serum in constitution, than it will in physiological salt solution. This is a laboratory axiom.

Ringer's solution is a physiologic solution used for perfusing the heart of the frog. It contains sodium chlorid, 0.650; potassium chlorid, 0.014; calcium chlorid, 0.012; sodium bicarbonate, 0.020; monosodium phosphate, 0.001 (glucose, 0.200); and water to 100. Another formula is: sodium chlorid, 1.8; calcium chlorid, 0.048; potassium chlorid, 0.084; sodium bicarbonate, 0.06; distilled water, 200. Still another is: sodium chlorid, 229 gr.; magnesium chlorid, 25¾ gr.; potassium chlorid, 8¾ gr.; magnesium sulphate, 13 gr.; calcium sulphate, 8¾ gr.; distilled water, 1 pint.

Pearce and Macleod, in their "Fundamentals of Human Physiology," summarize a very interesting theory concerning the cause of the heart beat.

"It will be remembered that the blood contains salts of sodium, potassium and calcium in solution. If these salts are replaced by other nonpoisonous salts in the same concentration as the salts removed, the heart will not beat. If the heart is perfused with a solution of sodium chlorid alone, the beat becomes very weak and finally stops. If, however, a small amount of calcium and potassium salts be added to the sodium chlorid solution, the heart will again begin to beat, but it stops after a while in a state of relaxation, or diastole, if calcium chlorid in excess be added to the solution, or in systole, or contraction, if an excess of potassium salts be added. These experiments suggest that the salts of the blood offer a solution to the problem of the cause of the heart beat, the potassium favoring relaxation, and the calcium contraction. If the proper balance of these salts is present in the blood, it is conceivable that a regular sequence of contraction and relaxation of cardiac muscle will take place because of the action of the salts."

Here, it seems to us, is a key to a new therapy in the presence of heart failure. Why should we not avail ourselves of this physiologic means of restoring tone and vigor to an exhausted organ instead of depending almost wholly upon toxic agents, in other words, drugs?

Ringer's solution by hypodermoclysis would undoubtedly fulfil the clinical indications in cardiac decomposition and other exhaustion states with a reasonable approach to adequacy. Indeed, in the light of laboratory truths it would be stupid not to employ this resource.

It is all very well to insist that a well-balanced diet supplies a sufficiency of inorganic mineral salts of the character under discussion. How many American diets are well-balanced? How many adults drink milk and make a point of eating green vegetables? These cardiac cases frequently reach us in bad shape after years of calcium starvation. Their hearts need calcium as a rickety baby needs cod liver oil, and then, forsooth, we solemnly proceed to digitalize them!

The good record of Ringer's solution in the treatment of shock and hemorrhage has presumably been due in very large part to its effect on the heart.

A fair trial still awaits Ringer's solution in cardiac cases.

## Our Slim Maids

Dr. Lewellys F. Barker, of Johns Hopkins, observes that "The desire of the modern girl to be extremely thin has become an obsession that is threatening her health and happiness." He fears that wrecked physical health, especially insidiously developing tuberculosis, is favored by the attainment of the modern girl's ideal—an exaggeratedly thin figure.

It is the girls between sixteen and twenty who are the most possessed by this obsession, and many of them add smoking and drinking to the evil of a deficient and ill-balanced diet.

Dr. Barker, rather naively, we think, suggests that this sort of thing interferes seriously with eventual fulfillment of the responsibilities of marriage and motherhood.

As a matter of fact, however, there does not appear to be much wrecking of health among these young women, since the tuberculosis wave is receding and not advancing.

The explanation must be that, despite the dietary restrictions practised by these girls, their lives, upon the whole, must be far more wholesome, hygienically, than those of earlier generations. Even smoking, drinking, late

hours and weight-reducing diet do not equal, in evil potentiality, the habits of yesterday.

The very nakedness of which the professional moralists complain must be a great factor in insuring an adequate ultra-violet ration.

Of course, the young women in question have profited to some extent by an acquired racial immunity, and they represent the principle of survival because of biologic fitness.

From this point of view our jazz age possesses good points and need not be altogether the despair of the pessimists.

### The Bituminous Syndrome

New Yorkers, unaccustomed like their brethren of Pittsburgh and other long smoky towns to bituminous smoke, have suffered of late from an unprecedented prevalence of upper respiratory affections, in which, no doubt, soft-coal smoke has played a prominent part. The irritation of this unwonted constituent of the atmosphere has undoubtedly played havoc with the respiratory mucosa of its hapless victims. Infective agents which would be well resisted under ordinary conditions, when reinforced by bituminous smoke, have succeeded in laying low whole battalions of citizens, and the result has been a demonstration on the grand scale of what evil the scandalous mining situation worked in one direction, only one among many of the vicious results of the coal strike. The spectacle of the first city of America in the throes of this black death has been such as to call in question the soundness of our boasted civilization and experimental democracy.

Will nothing be done to preclude a repetition of this disgrace?

### Orthopedic Defects of the Great

Tyrtaeus, the poet, was lame; Aesop of the Fables suffered from Pott's disease; Alexander the Great was a victim of torticollis; Talleyrand had an equinovarus of the right foot, as shown by a shoe now in the Carnavalet Museum in Paris; Walter Scott's lameness was due to an equinism, following upon infantile paralysis—Robert Chambers, one of his biographers, says that he rested his weight on the tips of his toes and at the end of two years began to walk by the aid of crutches; Murray, the English publisher, has a pair of orthopedic shoes made for Lord Byron when he was a child, indicating the same deformity as in Talleyrand's case, which agrees with a letter written by his mother when he was three years old, saying: "George's right foot turns in. He walks almost entirely on the side of the foot." Sheldrake, a maker of orthopedic shoes for Byron, described his deformity in the *Lancet*, and what he had to say was in consonance with the foregoing data.

Our own Hawthorne suffered from an injury of the foot in boyhood. It was struck by a ball in play and after a more or less acute disturbance in the bony tissues (probably tuberculous osteomyelitis) the foot "pined away."

It may safely be assumed that the celebrity of such men as we have mentioned was in large part laboriously and painfully attained by way of compensation for inferiority complexes.

Physical defects doubtless serve useful psychological purposes with greater frequency than we are apt to imagine. A deformity may decide the issue of greatness or mediocrity.

Fancied defects probably figure very often in this phase of life and conceivably produce somewhat the same results as real ones.

### Preliminary History Blanks

Dr. J. Madison Taylor, of Philadelphia, over 15 years ago devised a preliminary history blank, to be made out by the patient. It forms a labor saving device for both examiner and subject, and makes for comprehensiveness and uniformity in anamneses and in statistics. We call attention to this useful blank in view of the wide spread interest now being taken in the subject of periodic medical examinations.

This blank will enable a person to make an orderly outline of leading circumstances in the physical history, bringing to mind half-forgotten facts, when memory is systematically self-searched, with plenty of time, better than in the hurry of an examination. It forms an excellent basis for the preclinical examination itself, directing attention to questions requiring special elucidation. It shows at a glance, when completed, whatever bears on a case, and forms a standard blank covering all departments of clinical investigation.

The psychological effect of such a blank must be considerable, and the revision and correlation of the data by the examiner adds to this while it aids diagnosis and the formulation of advice and treatment.

This blank is made and sold by the F. A. Davis Company, of Philadelphia.

## Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

### Gulliver's Travels

Gulliver may be imagined traveling anew in the year 1940 and finding the Congress of a curious republic enacting a Federal law known as the Twenty-third Amendment.

An organization known as the Anti-A League had long conducted an agitation against the retention in the alphabet of the letter A, on the ground that this letter constituted an "ingredient" in more obscene words than any other. It was argued that obscenity could be practically eliminated by the proscription of this letter, and that among other beneficent results industrial efficiency would be greatly enhanced, since the sapping of the nation's vigor, through evil conduct tracing its source to obscene suggestions, would be checked.

The Twenty-third Amendment which finally became the law of the land prohibited utterly the sale of articles, advertisements, periodicals, newspapers, books or addresses containing the letter A in greater proportion to other letters than one-half of one per cent, with the exception that an exempted group of literary artists were permitted to use the letter A in maximum proportion once in every ten days, provided that their aims were purely esthetic and cultural, and provided further that the quantity of material so produced by the individual artist did not exceed what could be inscribed upon writing paper not to exceed one ounce in weight.

The serious philological difficulties engendered by the proscription of such an important letter were ingeniously met by the language experts, whose devices served at least as well as would soft and caffeinized beverages as substitutes for stronger refreshment.

Gulliver found that enforcement had flagged and failed in a most dismal fashion, and that a bootlegging industry of vast proportions had grown up which had succeeded in selling to the younger people of the strange republic the most shocking array of obscene words that the language had ever known.

The forces believing in the temperate or even un-

limited sale and use of the letter A were surreptitiously called "Ayes," while those determined to prohibit its sale and use were similarly known as "Nays."

Many influential and well-meaning persons Gulliver found to be still strongly in favor of the Twenty-third Amendment, despite its disastrous effects upon the young. These die-hards stood for rigid enforcement and vast expenditures toward this end, although neither was actually practicable, unless all other projects of merit were to be slighted or scrapped. Sober opinion in general condemned the law. In the meantime most of the young carried upon their hips lists of obscene words containing the letter A which they frequently scanned and employed, or exchanged with others. Wild parties were common at which obscenities containing the letter A were thrown upon screens and lustily screamed. People who had never been especially interested in the letter A took to brewing new words of an obscene character, containing the letter A, as a favorite indoor sport. As a result of these conditions a vicious spirit, naturally enough, developed in the people, moral character was undermined, and a general disrespect of all laws engendered.

In all his travels Gulliver had nowhere found such curious customs nor such unaccountable sponsors.

#### Fees Feasible and Fees Infeasible

(Concluded from page 110)

of public institutional life for children, by way of example, as has already failed in Bolshevik Russia.

The author has always held that the organization of the pay-clinic is incorrect. It would be better for various foundations which make up the deficits of these clinics to establish a salary basis for the young physicians on duty who could thereafter be held responsible for strict attention to duty and for regularity and quality of service. Such a plan would help the young physicians materially in meeting their problems in life, which is maintaining a livelihood while developing a private practice. The next step should be the most careful possible scrutiny of the patients who apply so that none but the abjectly poor would be received. Other inquirers should be referred back to their family physicians or to a properly approved or impartial list of medical men who have certified their willingness to accept persons of modest means at low rates. A recent issue of the *Medical Week* characterizes as "unnecessary and unsound" the plan to establish another pay-clinic in New York City in the Wall Street section, thus:—"Events have established the justice of medical antagonism to pay clinics. Not one of those which have been chartered has rendered a service superior in quality to what the patient would receive in private practice at the same cost. Extension of the pay clinic system would constitute a serious threat to the economic security of the medical profession. It would drive the younger man into inadequately paid positions where, unspurred by the healthy competition of private practice his scientific initiative would be stifled in a mechanical routine."

Case XII.—The difference between pay-clinic and private treatment is illustrated by the following patient whom the author recently lost to a pay clinic. Severe colon bacilluria with minor mucous membrane changes in the bladder had afflicted the girl for four months, arising from constipation of long duration and undoubted severity. In about one month the colon bacillus had totally disappeared from the urine and obvious improvement had begun under physical therapy to decongest the bladder. More rapid progress would have been made if the girl could have come every day for two weeks, then every other day and finally every third or fourth day. Because the writer has seen young women with the "bladder irrigation habit" and others with the "vaginal douche habit" going back weeks, months and years, he purposely did not put this semihysterical young woman on bladder irrigations. Although the objective

results were satisfactory to date, she suddenly ceased treatment chiefly because a busybody nurse had informed her that such bladder conditions often lasted a year. The patient went to a certain pay-clinic, fell into the hands of a young female doctor who immediately began irrigations of the bladder without reference to a urine perfectly clear and free of bacteria, or to the nervous constitution of the young woman.

The opinion will be fair that the patient has lost a great deal in exchanging the mature judgment of the author for that of the inexperienced physician. Freedom from the bacillus coli will rapidly quiet the bladder as explained to the patient and be the real cause of improvement. If now irrigations are continued the misinformed girl will ascribe the cure to the irrigations. A bladder irrigation to be worth while must at first be daily. The fact is that the said pay-clinic physician was giving the irrigations once in several days which is practically waste of time provided such treatment is literally necessary. A peculiar phase in this case is that the writer reduced his fees to the overhead cost of treating each patient and saw the young woman after business hours. Such treatment as she receives must be made during business hours and might lead to her discharge from employment or to reduction in her weekly wages on account of the time lost. Hence, as a financial proposition, the girl has not been a gainer and may be a total loser. Thus the pay clinic is not always what it seems to be—a solution of the problem of the person of moderate means, medically or financially.

An interesting query is what would happen if doctors habitually strove to meet the situation as in olden days? It is easy to remember the conspicuous example of several practitioners of great prominence who had an upstairs office for full-pay patients and a downstairs office for the white-collar class. Others had a downtown office for the poor and an uptown office for the wealthy. Such a plan is not as wise as the other because it doubles the overhead in all financial expenses, time in travel and other relations. Those physicians who do not possess quarters for upstairs and downstairs treatment rooms could with reasonable facility set aside definite days and hours.

Not only is the writer willing to co-operate with his confrères in such an arrangement but is further ready to make a sociologic and economic report of the results of say two years' experience and then contrast this report with the report of any pay-clinic whatsoever.

Based on the knowledge of the budget relations in family life today and on the knowledge (gained when a former business man) of commerce in its highest sense, namely man-to-man relations, obligations and service, such an effort is the best way to meet the problems as they exist at the present time.

This article is written on the highest possible plane of commonsense applied to the growing difficulties of the practice of medicine as a just means of livelihood, in the face of more or less direct or indirect opposition on the part of the community, or, stating it in different terms, in the face of more and more lack of comprehension and justice on the part of the community. That this paper will provoke a great deal of comment is a foregone conclusion, but such comment should be exactly the same as the character of the paper, namely, inspired by frankness and a willingness to accept conditions as they are and not as one would desire them to be.

45 West 9th St.

#### Doctors are Citizens First

They are morally obligated to interest themselves in civic affairs and should be as active in promoting mental, moral and spiritual welfare as they are in promoting physical welfare.



### Diary of The Great Mucous Membrane Disease

(Concluded from page 114)

other symptom, one should examine for the signs of head cold with or without heart complications. In these patients a rectal temperature of 100 and pulse of 100 are always pathological. The same principle applies to tire and prostration as the sole presenting symptom in any patient.

(18) During the attack pain about an old hemorrhoid, as well as phlebitis in any portion of the body is apt to show a recurrence. Most of the unexplained thromboses appear within eight days after the onset of the so-called head cold. This also applies to the attack of cerebral thrombosis or hemorrhage which is so frequently preceded by the head cold as evidenced by the mouth signs.

(19) Another uncommon accompanying symptom is that of a catarrh of the vaginal mucus membrane resulting in a leukorrhea. More rarely is there an accompanying tubal catarrh present.

Finally there are many other syndromes bearing a relationship with head cold but sufficiently rare to prevent calling one's attention to this relationship. All of these syndromes recur just as truly as do respiratory symptoms and this often raises the question whether influenza as the predominating infection is the herald, or is just an accidental disturbance when some other disease is also present. Whenever this universal distribution of inflammation in all of the visible mucus membranes as eye, mouth, nose and throat, vagina and gastro-intestinal tract occurs it is difficult to avoid believing that this is a disease affecting mucus membranes as an entity and that any medication devoted to any single mucus surface is only palliative as far as the disease as such is concerned.

### Conclusion

(1) We believe that influenza and the common head cold are the same phenomena.

(2) That an indefinite period of incubation occurs in every attack which may be days or weeks before manifesting itself as an observable pathological phenomena.

(3) That certain mucus membrane signs characterize the attack as the great mucus membrane disease.

(4) That recurrence at sixteen or thirty-two week intervals is the rule.

(5) That the disease consists of a number of short attacks the total lasting from six to eight weeks, rarely more.

(6) That each of the short attacks last three and a half days.

(7) That the disease once acquired generally remains in the individual's mucus membranes for many years.

(8) That the onset is not always confined to the respiratory tract.

(9) That a person may act as a carrier for years.

(10) That influenza often acts as a herald for many so-called disease syndromes.

We have herein connoted so many symptoms in relation to this disease that the first inference is to consider that we are suffering from a delusion as to its frequency and entity, but we shall be satisfied if only close inspection is made in every patient to ascertain the truth or falsity of each assertion.

34 West 88th Street.

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### Inflammatory Diseases of Gall Bladder

(Concluded from page 128)

4. In a "strawberry" gall-bladder, the gall-bladder mucosa being covered with tiny beads.

5. In hydrops fellae due to blockage of the cystic duct, secondary to stricture or to impacted stone.

6. In empyema of the gall-bladder due to an impacted stone or strictured cystic duct.

7. For the cure of pathologic fistulae existing between the gall-bladder and a hollow viscus, if associated with disturbances calling for treatment.

8. For penetrating injuries, ruptures and perforations of the gall-bladder of either traumatic, calculus or inflammatory origin.

9. For mucous fistulae of the gall-bladder resulting from stricture or other obstruction of the cystic duct.

10. In chronic obstruction of the cystic duct whether due to stone impaction, scar-tissue formation or torsion of the gall-bladder.

11. In irreparable injuries of the gall-bladder.

12. In volvulus of the gall-bladder.

13. In benign neoplasms of the gall-bladder.

14. In operable malignant neoplasms of the gall-bladder.

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### To Prevent Wrinkles

There is no way to eradicate wrinkles, but they may be prevented by a judicious diet and a hygienic life, plus the following measures: Cleanse the face every night with hot water and a superfatted soap, rinse in cold water and spray with the following lotion:

R—Aluminum Sulph.	4.00
Glycerin	50.00
Ext. Violet	0.35
Aq. Laurocerasi	10.00
Aq. Rosae	10.00

Let this lotion remain on all night and next morning apply cold cream with gentle massage and remove it when leaving house.—(Dr. Wm. J. MacDonald, of Mass. Gen. Hosp., Boston.)

## Correspondence

### Barometric Pressure and Heart Disease

To the Editor of THE MEDICAL TIMES:

A correspondent of the *British Medical Journal* raises the very pertinent question concerning the relation of barometric pressure to deaths from heart diseases. Dr. Stocks of the University of London replying thereto, declares that an appreciable relation between pressure and deaths from circulatory ailments exists. He does not present statistics in detail, however, probably for the reason that such figures at the present time are not sufficiently comprehensive to be conclusive. This question has been considered at this laboratory. Although something more than a suspicion relates rapid changes in pressure to death rates, the figures are so incomplete that a conclusion from them is not warranted.

In the greater part of the United States the extreme variations in pressure occur chiefly between the middle of November and the middle of the following March. During this period the changes in pressure at times are rapid. A fall of one inch in pressure within twenty-four hours is not uncommon; a drop of one and one-half inches occurred in 1925 between the midnight of January 28 and that of the following day. Now, a change of the sort means a reduction of pressure approximately three-quarters of a pound per square inch—in detail, a lowering of gross pressure upon the human body amounting to several thousand pounds.

Taking the knowledge gained by investigations of the caisson disease as a basis, I formed the opinion that a rise in the death rate following anti-cyclonic weather was due to the drop in pressure and not to the rise. Perhaps I am in error. Moreover, the effects of such a change must also include temperature as well as pressure. A high winter barometer means usually a cold wave.

Up to the present time definite knowledge upon the subject is too meager to warrant a certain conclusion; nevertheless, I have a decided opinion that Dr. Stock is in the right, and that he has opened the discussion of a most important question. Deaths from heart ailments head the list in our mortality statistics. The rate has mounted year by year, each year being higher than that of the preceding year with a single exception; in 1918, the influenza cheated heart disease of many of its victims. In 1924 the toll within the registration area was 176,000, and to this should be added 23,000 victims of arterial diseases.

Obviously the first procedure is to determine the facts of the case. If it is found that a relation between heart and arterial ailments on the one hand, and changes in barometric pressure on the other exists, the proper advice is to induce patients of the sort to seek residence in localities where intensive changes in pressure do not occur. The Weather Bureau can furnish the information necessary.

JACQUES W. REDWAY.

Meteorological Laboratory, Mount Vernon, N. Y.

### Transitory Cerebral Manifestations of Hypertension

In *La Prensa Medica Argentina*, for April 30, 1925, Drs. Camille Lian and Raymond Barriau discuss the minor cerebral accidents which frequently appear in patients suffering from arterial hypertension.

They quote Vaquez to the effect that transitory aphasia and brief periods of paresis, especially brachial monoplegia, are more common in persons with high blood pressure than is generally supposed.

The authors represent cases in which interference with speech, amblyopia, amaurosis, aphasia, amnesia, mental confusion with loss of memory, and even complete hemiplegia have appeared in such patients and passed away in a few minutes or hours without leaving any apparent after-effects. There is, however, a strong tendency for these manifestations to recur.

These physicians believe that such conditions are due not to the hypertension itself but to brief and violent exacerbations of the vasospasm which underlies the hypertension; and that the danger is not so much from the attack itself as from the serious condition in the background, of which it gives warning.

The immediate treatment is by the inhalation of an ampule of amyl nitrite, the ingestion of 20 to 30 drops of a 20-per cent alcoholic solution of benzyl benzoate, repeated 2 or 3 times a day, and the hypodermic injection of 2 to 4 cgms. of nitrite of soda (2 cgms. to 1 cc. of distilled water), 2 or 3 times a week for a month or two.

The underlying condition should be vigorously treated by a nonacid-forming and salt-free diet, with occasional purgation and venesection, as circumstances seem to indicate.—(*Clin. med.*)

## The Physician's Library

**Young's Practice of Urology.** Based on a study of 12,500 cases. By Hugh H. Young, M.D., and David M. Davis, M.D., Johns Hopkins University. With the collaboration of Franklin P. Johnson. Two octavo volumes totalling 1,484 pages with 1,003 illustrations, 20 being color plates, by William P. Didusch. Philadelphia and London: W. B. Saunders Company, 1926.

Another work on urology would almost seem like carrying coals to Newcastle, but an examination of these two very remarkable volumes will show that the authors have covered a new type of field.

These volumes actually constitute a monumental work. They represent the findings in 12,500 urological cases which have been worked out in one of the best hospitals of the country under some of our most outstanding urologists. With the assistance of a very large staff these histories have been given the most meticulous study, and the findings will form a very important part of our urological information.

The authors have divided their efforts along four lines: certain operative procedures, the study of new urologic instruments, the work done by several of their new products including mercurochrome and flumerin, and then a line of original work on such subjects as stricture of the lower end of the ureter due to seminal vesiculitis, and other conditions of the ureter, the bladder, the prostate, and the urethra.

It would be impossible, in the narrow confines of a book review, to give these volumes the attention they deserve. It must suffice to say that the first volume is given over to obstructive uropathy, the various urogenital infections and infestations, and neoplasms of the urogenital tract with some other topics of less importance. Volume 2 is devoted to malformations, abnormalities, etc., together with the study of symptoms, examination of patients, and the description of all the important operations which come to the attention of the urologic surgeon.

These volumes constitute, with their text matter and more than 1,000 illustrations, many of them in colors, the leading work on urology. The artist has been particularly successful in aiding in the presentation of this great wealth of clinical material in so graphic a manner. The color plates leave nothing to be desired. It is eminently fitting that Doctor Young, as one of the world's best urologists, should be the progenitor of this great work, and the profession is to be congratulated upon the efforts of Doctor Young and his associates.

**Submucous Endocapsular Tonsil Enucleation.** By Charles C. Miller, M.D., of Chicago. 218 pages. Chicago: Oak Press, 112 N. Wells St., 1925.

This is a discussion of a special subject of interest to the specialist, but with little appeal to the general practitioner.

### What Builds Babies?

Dr. Dorothy Reed Mendenhall, of the Children's Bureau, U. S. Department of Labor, has written interestingly on Protective Foods.

During the prenatal and nursing periods all women should have an abundance of "the protective foods"—milk, eggs, green leafy vegetables, and fruit. These essential growth foods, which safeguard the bones and teeth, brain and muscles of the baby, can be increased in the diet without necessarily increasing the total amount of food taken daily.

*The Daily Dietary Essentials for Growth*  
(These foods give the first 1,000 calories)

- One quart of milk.
- One raw-vegetable salad.
- One egg.
- One citrus fruit, or tomato.
- One cooked green leafy vegetable.
- One serving of whole-grain cereal or bread.

If a helping of lean meat or fish and potato and three slices of bread and butter are added to these foods, the diet will be sufficient in calories or fuel value and adequate in the growth essentials for the average pregnant or nursing mother.

Milk is superior to any other single food in adequacy of protein, abundance of lime and variety of other minerals, and richness in vitamins. Milk is as much needed to build the baby during pregnancy as to promote breast milk.

The use of milk in cooking cereals, soups, white sauce, custards, puddings, and cocoa helps to put the desired quart in the daily food. Skim milk, butter-milk, or cottage cheese may be substituted for whole milk, if butter or cream is used. When a good supply of fresh milk is not available milk powder or evaporated milk may be taken.



## Public Health

### Health of American Public Requires Many-Sided Thought

The health of the American public has become a problem, so vast and many-sided that, of the sixteen member organizations of the National Health Council, many have found it profitable to discuss their work with each other. This has given rise to the joint sessions that characterize the American Health Congress, to be held at Atlantic City, May 17-22.

One of the most purposeful of these sessions will be that which takes place Friday afternoon, where the American Public Health Association, American Child Health Association, the National Organization for Public Health Nursing and the Conference of State and Provincial Health Authorities of North America meet together to consider the public health administration of communities. Three plans for the health administration of cities will be described by the men who have developed them: Professor C. E. A. Winslow, Dr. S. J. Crumrine, Dr. Murray P. Horwood, Dr. Harold H. Mitchell, Dr. B. Franklin Royer, Mr. Edward Stuart, Professor Ira V. Hiscock, Assistant Professor of Public Health, Yale School of Medicine. A fourth health plan—for the county health organization—will be presented by Dr. Joseph W. Mountin, Director of Rural Sanitation, Board of Health, Jefferson City, Mo. Not only will these men describe their plans, but men and women engaged in health administration in all parts of the country will be present and enter into a free discussion which can do more toward the evolution of public health standards than years of individual uncomparative work.

"Light and Health"—a subject of most modern interest—is the nucleus of a joint session of the American Public Health Association, the American Child Health Association, and the National Organization for Public Health Nursing. The physician, the surgeon, the nurse and those conducting various kinds of laboratory research have news on this subject for every worker in the field of health. Dr. William J. Bell of the Department of Health, Toronto, Canada, Chairman of the Child Hygiene Section of the American Public Health Association, will preside.

This last year has made especially timely the subject "Newer Methods for the Control of Infectious Diseases," which brings together the American Child Health Association and the Child Health Section of the American Public Health Association. The very men who have distinguished themselves in the fight against the prevention of infectious diseases in the various districts of the country will speak: John A. Kolmer, M.D., Philadelphia; William H. Park, M.D., New York City; Frederick V. Sears, M.D., Syracuse, New York; Mathias Nicoll, M.D., Health Commissioner of New York State.

Venereal disease, a nation-wide, a state-wide, and a city-centered problem, is the subject which brings together the American Public Health Association and the American Social Hygiene Association. It will be taken up from the viewpoint of the United States Public Health Service, from the viewpoint of a state health department (Pennsylvania) and from the viewpoint of the municipal health organizations of two representative cities (St. Louis and Detroit).

The industrial pollution of water becomes more and more a problem for the public health administrators and for the public. The American Public Health Association has taken this occasion to meet with the New Jersey Sanitary Association and discuss the latest research in this matter. The speakers will be: H. P. Croft, C.E., Chief of the Bureau of Engineering of the State Department of Health, New Jersey, Dr. Louis I. Harris, of the New York Health Department, and Mr. Abel Wolman.

Realizing that in every branch of public health work the problem of the mental adjustment of the individual to his environment crops up in one way or another, the National Committee for Mental Hygiene has arranged sixteen round-table discussions to be held under the chairmanship of Dr. George K. Pratt. Free discussion will prevail allowing those who attend opportunity to discuss their problems under the following classifications: "The Backward Child," "Adolescence," "The Problem Child," "Community and Organization Phases of Mental Hygiene." Each subject will fill four of the sixteen round-table sessions and will be ably guided by men distinguished in that field.

Adult education and its most recent developments will occupy a joint meeting of the three nursing organizations and the Nursing Section of the American Public Health Association.

To teach nurses how to inform their communities of their work is the aim of the joint session of the National Organization for Public Health Nursing and the Public Nursing Section of the American Public Health Association, Miss Sophie C. Nelson, presiding. Conducting this "class" or "demonstration," Miss May Burgess, Ph.D., of the Committee of Dispensary Developments of New York City, will set forth various forms of graphic presentation; Miss Louise Tattershall will give pointers on how to secure census facts and figures. Miss Mary Dempsey of the New York Health Department will speak on "How It Actually Has Been Done."

The Women's Foundation for Health will bring together speakers from all fields to develop the complete ideal of "Positive Health."

For the last two months the proposed programs of the four general sessions of the Congress have been creating comment and enthusiasm. They will deal with relative values in public health, public health administration, what public health can do for the race, and the international aspects of public health. Prof. C.-E. A. Winslow, President of the American Public Health Association; Sir Arthur Newsholme, K.C.B., M.D., F.R.C.P.; Dr. George E. Vincent, President of the Rockefeller Foundation; Dr. René Sand, Belgium, Secretary-General of the League of Red Cross Societies; Dr. Alice Hamilton, Assistant Professor of Industrial Medicine, Harvard Medical School; Dr. Livingston Farrand, President of Cornell University; Herbert Hoover, Secretary of Commerce; Dr. William F. Snow, General Director of the American Social Hygiene Association; Dr. Linsly R. Williams, Managing Director of the National Tuberculosis Association; Dr. S. J. Crumrine, General Executive of the American Child Health Association, will address these general meetings.

### Syphilis and Stillbirths

Miscarriages, and abortions are not reportable in New York State and therefore statistics regarding the prevalence of these cases are not available. Stillbirths are reportable, however and the table below shows a total of 101,544 cases for the ten years.

1915.....	10,500	1920.....	10,100
1916.....	10,137	1921.....	10,234
1917.....	9,971	1922.....	9,987
1918.....	10,825	1923.....	9,874
1919.....	9,464	1924.....	10,452

Authorities are at variance as to actual percentage of cases of stillbirths which are due to syphilis. It is apparent that the proportion varies according to different factors. For New York State, it would be conservative to estimate 20 per cent. of stillbirths as being due to syphilis. In other words, about 2,000 infants are born dead each year within the State because a syphilitic infection of the mother or foetus. These deaths could be prevented largely by anti-syphilitic treatment of the mother during pregnancy. Regardless of how late in the period of pregnancy, syphilis is discovered the mother should receive treatment. Even one or two treatments with one of the arsphenamines before the birth of the child increases materially the chances for a favorable prognosis for the infant. When at least a few treatments have been administered to the mother during pregnancy and treatment of the infant is instituted immediately after birth, the chances of escaping the stigmata of congenital syphilis are good. (*Health News.*)

### Plague—Past, Present and Future

The points in the history of the disease to which B. J. Lloyd, Washington, D. C., directs attention are the following: 1. The early association of rodents with plague. 2. The presence of both pneumonic and bubonic forms of the disease in many epidemics. 3. The periodicity of plague which is unlike that of any other disease. Attempts to immunize man against plague have not been very satisfactory. In case of known inoculation, as in performing a necropsy, fresh antiplague serum should be given daily until all danger is passed, but this is early treatment rather than prophylaxis. The injection of killed cultures of *B. pestis* produces unquestionably, a certain degree of immunity to plague for a time, but, except under conditions such as may be found in India, for example, it is doubtful whether the use of such injections is worth while. There is at present practically only one treatment for plague that merits our serious consideration, and that is the use of fresh antiplague serum in large doses, from 80 to 100 c.c. for the initial adult dose, given intravenously.

Subsequent doses may be somewhat smaller, but not less than 40 c.c., and should be repeated every twelve hours until all danger is passed. It is not necessary to give every dose intravenously, except perhaps in the pneumonic form of the disease. In the United States, we have an endemic center of plague in the ground squirrels of California. For years, the Public Health Service and the people of California have conducted strenuous campaigns against these squirrels without either exterminating the squirrels or eradicating the plague. If the land appropriated by these squirrels ever becomes valuable enough to be cultivated intensively, the human population on it may increase sufficiently to exterminate the squirrel, or maybe, lethal gases may be developed that will enable us to kill them all. Permanent rat proofing is almost the only effective measure against plague in cities of any considerable size. Present indications are that plague will remain a menace to the inhabitants



of this and other countries indefinitely or for many decades, perhaps for several centuries. Intensive studies might well be made with a view to devising a system which would reduce the expenditures of plague campaigns to a minimum and which would at the same time produce a maximum of benefit. Seaports particularly should all begin to require rat-proof construction of all new buildings, as has been done for years in San Francisco and a few other cities. (*Journal A. M. A.*)

#### The National Board's Certificate Deserves Universal Recognition

The certificate of the National Board of Medical Examiners is now recognized by thirty-five licensing boards, including those of thirty-three states, Porto Rico and the Canal Zone. The number of candidates for its certificate has steadily increased from ten who took the first examination in Washington, D. C., in October, 1916, to 978 who were examined during 1924. Altogether, 2,212 candidates have been examined since the board's first examination, and of these 1,745 (78 per cent.) passed. In the five years ending Dec. 31, 1921, eleven examinations were held and 268 candidates were granted certificates. Then a new plan was adopted which divided the examination into three parts: Part I, covering the fundamental medical sciences, could be taken at the end of the second medical year, and Part II on the clinical subjects, at the end of the fourth year, these two examinations being given in all Class A medical schools. Part III, a clinical and practical examination, could be taken by the candidate at the end of the hospital intern year in any one of sixteen widely distributed medical centers in which the examination was given simultaneously. The new plan was more advantageous in that candidates could take the examination at the most convenient and opportune times and without the unnecessary time and expense of traveling to a single distant place as under the old plan. This new plan brought a tremendous increase in the number of candidates. Instead of only 268 who received certificates in the five years under the old plan—an average of 54 each year—under the new plan, in the first three years, 1,744 candidates, an average of 581 each year, successfully passed the board's examination.

The National Board was organized in 1915, but did not attempt to hold examinations until 1916, after it had received the approval of the American Medical Association. Shortly thereafter, the board's certificate was accepted for admission to the Medical Corps of the United States Army, Navy, and the Public Health Service when the essential physical examination was passed.

Within two years after its organization, the medical licensing boards of eight states announced their willingness to license without further examination those who held the National Board's certificate. After five years, the trial period of the board's usefulness, the certificate was accepted in eleven other states. During this second period the board's diplomas were endorsed by the Conjoint Board of England, the Triple Qualification Board of Scotland, the American College of Surgeons and the Mayo Foundation. Since then the licensing boards of sixteen other states also provided for the recognition of the board's certificate. At present, therefore, besides the professional associations and boards named, the licensing boards of thirty-five states are recognizing the certificates of the National Board.

With its steadily increasing number of candidates, with its well established permanence, and with the generally accepted high character of its examination, the National Board appears to be worthy of recognition by all the licensing boards in the United States. It is hoped, therefore, that the other nineteen states and territories which thus far have not done so, will see that legislation is enacted which will enable them to recognize the board's certificate as an acceptable qualification for a license in those states. As a medium for the exchange of medical qualifications between this and foreign countries, the board's certificate will obtain even wider recognition when it is universally accepted by all states in this country. The National Board and its examination now constitute one of the most encouraging influences in the field of medical licensure. (*Journal A. M. A.*, Aug. 22, 1925.)

#### An Epidemic of Automobiles

Civilization decreases the death rate, but it also is responsible for specific increases in mortality. Man's success in mastering and utilizing the forces of nature for his own pleasure has not been accompanied by an increase in his own ability to meet the situations created by his own inventions. An excellent example of this is found in the increase of automobile accidents.

The death rate from automobile accidents was 12.5 per 100,000 population in 1922. In 1900, when automobiles were objects of interest, and attracted crowds when slowly progressing down the

street, the mortality rate from accidents and injuries by horses and vehicles, including automobiles, was 1.3. This startling contrast, approximately a thousand per cent increase, indicates the part that high-powered vehicles are playing in our national life.

It has been estimated by the United States Bureau of Census that the death rate from automobile accidents in England and Wales, where fewer automobiles are used, was 4.0 per 100,000 population in 1921, as compared with a rate of 11.5 in the United States Registration area for the same year. This difference between the two countries further demonstrates the degree to which the automobile constitutes a hazard to life in this country. It must be borne in mind that fatalities alone are considered, and there are no accurate figures to indicate the ratio of automobile fatalities to the total number of individuals injured through automobile accidents. If but one in ten injuries resulted in fatality, the automobile injury rate for 1922 was 125 per 100,000 population. The estimated ratio, obviously, is exceedingly conservative.

The Bureau of Census has its own rules for the allocation of deaths to automobile accidents, because in collisions between automobiles and cars or railroad trains, the death occurring is assigned to the heavier vehicle. Hence, the federal figures do not represent the fatalities attributable to accidents involving automobiles, but merely those in which the automobile strikes an individual or collides with a lighter vehicle, as a motorcycle or horse-drawn carriage.

A large number of deaths by carbon monoxide and other exhaust gases are recorded as due to absorption of irrespirable, irritating or poisonous gases.

It is important to note that the death rate from injuries by street car accidents was no greater in 1922 than in 1921, and that the mortality rate from injuries by other vehicles was only 1.5, the lowest record since 1910.

The use of automobiles continues to increase and there appears to be a concomitant increase of the mortality rate from automobile accidents. Unfortunately, a very high proportion of the automobile deaths occur among children. In 1922, 29.4 per cent of the total number of deaths from automobile accidents, were of children under fifteen years of age, as contrasted with 7.8 below that age, from railroad accidents, and 13.6 from street car accidents. Almost 4,000 children under fifteen years of age were victims of automobile accidents. Fewer children died from such diseases as typhoid fever, malaria, smallpox, scarlet fever, dysentery, measles, influenza, poliomyelitis, encephalitis, tetanus, syphilis, rickets, meningitis, diseases of the heart, bronchitis, appendicitis, or acute and chronic nephritis. These various diseases are subjects of great concern in all communities. Health departments are constantly seeking to devise methods for their prevention and control. Automobile accidents constitute a greater hazard to children under the age of fifteen, than any of the above enumerated diseases.

It begins to appear as the health departments should begin to exercise some of their police power in curtailing the automobile menace. There is ample reason for more effective cooperation between the Police Department, the Judiciary and the Health Department, if automobile accidents are to be attacked consistently, with a view to diminishing their frequency and dire effects. In a sense, automobile accidents in the United States are assuming the characteristics of an epidemic, and they should be fought with the persistency and authority demanded by such a state of facts.—(*Am. Medicine.*)

#### Industrial Health Under Nonmedical Supervision

Emery T. Hayhurst, Columbus, Ohio, summarizes his views on this topic as follows: For the public weal, industrial health simply requires sanitarians to take charge, both official and non-official, medical and nonmedical, with local health departments supervising and guided considerably by the experience of those industrial physicians and surgeons whose duties actually extend to hygiene and sanitation of working conditions in their respective plants. (*Journal A. M. A.*)

#### The Detection of Syphilis in Prenatal Clinics

Of 5,000 maternity patients who were examined routinely without especial thought of syphilis, definitely clinical evidence of syphilis was found in only 0.54 per cent and suspicious signs in 1.7 per cent, a total of 2.2 per cent. The Wassermann test in the same group was positive in 9.2 per cent.

History taking is an important aid in discovering syphilis. "Fetal deaths are only of confirmatory evidence, since but 7 per cent are the direct result of syphilis." Histories of multiple fetal deaths are of considerable value.—(*Am. J. Obstet. & Gynec.*)

#### Tell the Truth

Never tell a child that you are not going to hurt him when you know that you are.—*Dr. L. J. Morse.*

## Obstetrics & Gynecology

### On Some Unusual Caginal Fistulae

Herbert R. Spencer, of London, reading a paper before the American Gynecological Association, expressed a high opinion of the value in cases of vesicovaginal fistula and (to suture the bowel) in complete rupture of the perineum of the silver wire suture, which he has exclusively employed in these cases during the last thirty-seven years, with the best results. The use of the silverwire suture for vesicovaginal fistulae was introduced by J. Marion Sims, on June 21, 1849, for rupture of the perineum it was employed by T. Addis Emmet more than fifty years ago. Sims states that "but for silver sutures that noble charity the Woman's Hospital (of New York) would not have been called into existence," and so impressed was he with its value that he printed in large capitals his opinion (in 1858) that "the use of silver as a suture is the great surgical achievement of the nineteenth century."

"Some American gynecologists still use the silver suture in these cases and I am hoping to receive from Americans a better reception for its advocacy than I did from my countrymen on the occasion mentioned when one gynecologist expressed his surprise at the use of such sutures at the present day, and another said if I had such bad cases of fistula as he had at his hospital, I should not be able to cure them with silver sutures and a tubular needle. Within a few weeks of his making that confident assertion, I easily cured, at one sitting, by silver wire sutures a case of vesicovaginal fistula which, after unsuccessfully operating upon by catgut sutures, he had sent on to a genitourinary specialist, who also failed to cure it and then proposed to remove the uterus and close the vagina in a young woman who had had but one child.

"I am not without hope that this gynecologist, who is both skilful and humane, will in future give a trial to the tubular needle and silver wire suture in cases of vesicovaginal fistula, in the treatment of which silver wire has many advantages, viz., its nonabsorbing and nonirritating character, its perfect asepticity, the possibility of twisting it to the required degree of tightness and the fact that no foreign body is left in the tissues."

We give two unusual cases of vaginal fistulae, one urinary and one fecal.

**CASE 1.**—*Minute vesicovaginal fistula repeatedly overlooked by the writer until the vagina had been stretched with an expanding speculum.*

This patient had been operated on for vesicovaginal fistula by another gynecologist unsuccessfully. Silk sutures were used, with the result that a stone formed in the bladder around one of the stitches and severe cystitis resulted which needed prolonged treatment before the case was fit for operation. It was only after four operations that the fistula was finally closed by means of silver wire sutures. When the patient began to walk about she noticed that she was always wet. A very careful examination, with injection of milk into the bladder, failed to disclose any fistula, and I concluded that the patient passed the urine owing to a weakness of the vesical sphincter and the question of tightening the sphincter arose. The patient, however, was not eager for operation and was seen only occasionally for some years. Twelve years after the operation I was lecturing to my class on vesicovaginal fistula and was pointing out that the only failure I had had with silver wire sutures was the case just described "and in that case the fistula was closed," when my assistant said that this patient, whom I had not seen for some years, had come that very day to see me and I found on questioning her that she was still constantly wet, although she passed urine in considerable quantities through the urethra. The patient was examined with the Sims and Fergusson speculum; but the anterior vaginal wall appeared to be perfect. I then introduced milk into the bladder while the Sims speculum was in position, but none of the milk escaped into the vagina. Although it appeared to me impossible that a fistula would not be revealed by such a test I made one more examination, employing an archaic wooden-handled expanding speculum with four rod-like blades by which the anterior vaginal wall was stretched taut and then introduced milk into the bladder. To my surprise the milk escaped in a fine jet not bigger than a cotton thread and the minute fistula, scarcely visible to the naked eye, was revealed. This was touched with a red-hot cautery point, which immediately closed the opening and permanently cured the incontinence."

**CASE 2.**—*Fecal fistula between the sigmoid flexure of the colon and the vagina overlooked by nine doctors, for want of using a probe.*

M. H., aged thirty, single (menstruation normal and almost painless) was admitted to University College Hospital on June 16, 1919, complaining of passing feces through the vagina. She

stated that she had had a "chill" two years ago, when she complained only of "a swollen feeling," but was able to walk about, suffering some discomfort. Soon a thick brown discharge occurred from the vagina and when this stopped feces began to escape from that passage and this has continued daily since. The patient had consulted six general practitioners and three gynecologists, all of whom had examined her without discovering the fistula and had come to the conclusion that she was a malingerer.

"She was introduced to me by my assistant as a mad girl who artificially put feces into her vagina. She, however, showed no sign of madness; though somewhat nervous, she looked healthy."

"I examined her in the lithotomy position in a good light. The vagina was full of loosely formed feces. After the vagina had been washed out and then dried with cotton wool, a Fergusson speculum was passed and slowly withdrawn. The vagina was found dilated and red, but appeared free from any abnormal aperture. I then passed a Sims speculum and found a slight dimple in the anterior wall  $1\frac{1}{4}$  inches from the meatus urinarius. On careful inspection no hole could be seen there; but a probe, and afterwards a uterine sound, applied at the site of this dimple went in for  $2\frac{1}{2}$  inches in a direction inclining to the left, and the end of the sound could be felt by a finger in the rectum through the rectal wall at a spot on the left corner of the uterus. The sound was withdrawn and replaced by a small rubber catheter through which milk was injected; after a few ounces had been injected it began to escape from the anus, into which a small tube had been inserted. The diagnosis was made of a fecal fistula between the sigmoid (adherent to the uterus) and the vagina, running in the cellular tissue beneath the bladder."

"At the operation, on July 7, 1919, a gum elastic catheter was passed into the fistula by the vagina. A median abdominal incision was made and a loop of sigmoid was found adherent to the fundus of the bladder and the left side of the body of the uterus. After separating some loose adhesions the sigmoid was found to be firmly attached by a strong short band 1 cm. in thickness. On cutting through this, a hole as big as a pencil was found in the bowel: this was stitched over with "Lembert" silk sutures. On pulling up the bowel the top of catheter was seen lying in a small cavity on the left side of the uterus and in front of the broad ligament, the round ligament forming the roof. The round ligament was then stitched back to the left corner of the uterus so as to shut off the cavity from the general peritoneum. The bladder, which had been adherent to the anterior wall of the uterus and had been separated to expose the cavity, was then stitched again with fine silk to the body. The gum elastic catheter was left in the sinus for a week and a drainage tube was passed through the lower end of the abdominal wound down to the sutured sigmoid. The wound was closed with through and through stitches of silkworm gut, fine silk (continuous for the peritoneum and interrupted for the fascia and silkworm gut for the skin).

"The operation lasted an hour. The wound healed by first intention except the drainage tract, from which no feces escaped. It rapidly closed after the removal of the tube. Induration could be felt on bimanual examination on the left side of the uterus for some weeks. On August 5 a probe could still be passed 1 inch into the vaginal sinus, from which a little pus escaped. The sinus had completely closed when I next examined the patient on Nov. 19, 1919, when she was quite well and had had no trouble with defecation since the operation."

"She wrote to me on Jan. 29, 1925, five and a half years after the operation, that she remained "in the best of health."

"The fistula probably arose from a suppurating diverticulum of the sigmoid, though no other diverticulum was found. Diverticula in this region are well known to cause abscesses communicating with the bladder; but I am not aware of another case where the fistula ran in the cellular tissue, missing the bladder.—(Am. J. Obst. and Gyn., Sept., 1925.)

### Cesarean Section under Local Anesthesia

W. E. Mowery uses local anesthesia in a large per cent of his Cesarean sections because (1) it is the safest method for both mother and child; (2) it is simple; (3) shock is absolutely prevented; (4) postoperative nausea and vomiting usually do not occur; (5) the danger of postoperative pneumonia is greatly reduced; (6) distention and paralytic ileus are practically eliminated, and (7) the patients' resistance to infection is not lowered.

The technic employed is of the simplest type and can be successfully carried out by any surgeon of ordinary skill. About four ounces of a 0.5 per cent novocain solution are used to infiltrate the skin, subcutaneous tissues and fascia. The peritoneum is incised without pain unless traction is made upon it. The uterus is not sensitive to pain. It may be delivered and